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UBI IN A CAPITALIST SOCIETY

The debate around UBI has been related to implementation strategy, its impact especially on the motivation to work and most importantly on the funding strategy for such a scheme. However these are rather practical matters more focused on smooth implementation rather than the theory itself. The underlying concept of UBI, what it entails and specifically how does the theory of UBI fit in with the theory of the society we live in today is probably a more fundamental issue. It is to be noted that the "society we live in" refers to a modern, highly connected society, which runs on the economic systems governed by capitalism. Starting off with the issue of a capitalist society, what it means to live in it is rather a different issue than the debate around economics that surround it. For UBI, the means of production, the free-trade, the invisible hand of the market [1] are not relevant issues. The relevant factor is that, for an ordinary person it means living in a society which favors and promotes strength and those processing it. The type of strength could be multi faceted: It could be financial, influence, political position in society, etc. The system promotes the strong and tries to weed out the weak. That's a fundamental driver of a capitalist society: up or out. However the very essence of UBI is against that principle. UBI is a framework to help the weak "linger on" instead of being wiped clean from a society.

The policy that enables one to "linger on" which is the goal of UBI, versus survival of the fittest, which is the capitalist goal, has a fundamental conflict. That does not mean one society is better than the other. The very basis of capitalism, the unbridled effort to get better than everyone else is exactly what has advanced the society to the current sophisticated marvel that it is. Modern society is an enabler of technology and provides the motivation for the entrepreneur to take extraordinary risks in the hope of eventually getting extraordinary rewards. That exact phenomenon that enables someone to get extra ordinary rewards is the same one which leads others to be pushed into impoverishment. There is a fixed amount of value to go around (though economists disagree, and that's another argument) and when some get a lion's share, they get it at the expense of others losing out. That's the fundamental property of the current system. So by ensuring some sort of balance, the motivation for those taking risks is greatly diminished. If a system such as UBI is introduced in such a capitalist setting, it would quickly be gamed by other elements of the society to make sure the balance returns to the original state of affairs. Without going into details of what those gaming mechanisms might be, it can be argued that the concept of basic income for everybody would not be able to sustain itself for long in such an environment. An example of this can be found by looking at two historical phenomenon from capitalist societies: That of insurance industry and of "vale of money".

When modern forms of insurance was started by Lloyd's of London for marine transport [4], the fundamental principle was simple: Risk Management by equal sharing of risk amongst the parties. That still remains the basic principle.

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However by gaming the system by a multitude of minuscule changes, there are examples of modern medical insurances where the amount one has to pay is dependent on one's current health conditions. That violates the principle of equal sharing of risk, where the healthy and the sick should all pay an equal amount, not knowing who might actually have to avail and benefit from the insurance amount. Such a modern insurance scheme is little more than a financial service whereby the healthy pay nothing and the sick pay a lot [7]. This is not much different to what would happen without the principle of insurance in place. It is a very simplified argument for a very complex issue, but the essence is the same [5]. The society introduced a service for managing risk and the capitalist system made that service null and void and shifted the focus on making a profit for insurance companies rather than serving the very principle they were supposed to protect. A simple mechanism might play out for UBI, where increased income for the very poor may raise the demand for basics of life and hence limit the supply of resources (such as housing). What happens next is what is explained a million times in classic economic texts. Suffice to say, the basic income of today would not be sufficient when the large scale effects of market come into play. And that is just one incompatibility of the concept of UBI with a capitalist system.

Another phenomenon in the society that has the potential to eventually nullify UBI is that of "value of money" in capitalism. What it means to have money is a very fundamental argument [6]. The argument becomes complex when the notion of modern money is used but becomes crystal clear when the underlying nature of money as a "transactional tool" is discussed, with the help of the ancient barter system. Let's say you have some material goods, which you can exchange for some other material goods. Or if you have some time, you can exchange it by performing some services and getting some material in exchange. Now let's assume, someone has a lot of time. They can exchange it for a lot of material by performing more services. But how much time is a lot of time? The theoretical maximum is twenty four hours per day. Let's say there is someone who has the entire twenty fours for exchanging (let's call him A) and is also very fast and efficient as compared to an average person who has just 8 hours per day and works at a moderate pace (let's call him B). So A can get 3 times more material in exchange than B. But since A is also very fast, imagine twice as fast, he can get maybe 6 times as much material as B. Lets also say that on top of all that, A is also very intelligent and knows many shortcuts. This doubles his task speed. Now he can get about 12 times as much as B. So by being very fast, very intelligent and devoting all day to performing services, A gets 12 times more material in exchange for his services than B. This argument can be extended further by giving A many more hypothetical attributes which may boost his capacity up till 100 times that of B. But that already seems absurd. It will be hard to even think of such attributes which can take the number up to 100. And that is what money should technically represent as well: The value of exchange and how much you can get for how much do you offer in exchange. We have seen that even 100 seems absurd. But in modern society, that numbers stands at around 3.3 million times [3]. That means that the richest citizens have about 3.3 million times more resources than someone below the poverty line. How could one possibly offer so many services that he gets 3.3 million times more than an average person is beyond explanation (and would not have been possible in barter exchange system). But that's a quirk of modern money and its use by capitalist society [2]. How can such a society which doesn't even have a basic concept of what is the value of money and which enables a single individual to have 3.3 million times more resources than the others favor a system where this "strength" might have to be divided amongst a large majority over a long term is not comprehensible.

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These two very unrelated phenomenon illustrate the difference in what a society values and what it can sustain. The capitalist society values progress and that is what it has sustained over the centuries. Another society might value some other aspects of humanity: that of basic happiness or basic right to existence for everybody and that society can have a UBI. But the second one is clearly not our present society.

References

1. TAYLOR, R. (2013). Market Freedom as Antipower. *American Political Science Review*, 107(3), 593-602. doi:10.1017/S0003055413000300
2. Wolff, Edward N. "Changing inequality of wealth." *The American Economic Review* 82.2 (1992): 552-558.
3. Forbes Billionaire List 2016
<https://www.forbes.com/billionaires/list/>
4. Lloyds - Corporate History
<https://www.lloyds.com/lloyds/about-us/history/corporate-history>
5. [Book] Charles Farley Trenerry - *The Origin and Early History of Insurance: Including the Contract of Bottomr*
6. [Book] Glyn Davies - *History of Money*
7. Navarro, Vicente. *Dangerous to your health: Capitalism in health care*. New York: Monthly Review Press, 1993.

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CENTER STUDY – UNIVERSAL BASIC INCOME

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UNIVERSAL BASIC OWNERSHIP – A FUTURE WITH TECHNOLOGY & COMMUNISM

The ideas behind a Universal Basic Income (UBI) were already discussed by Thomas More in 1516 (More, 1963) and the first concrete proposal came in the form of “capital grants provided at the age of majority” by Thomas Paine in 1797 (Paine, 1797). The concept has gained more momentum during the end of the 20th century because more and more economists discussed the topic in depth (Van Trier, 1989; Friedman, 1968). A UBI creates freedom by providing financial security to everyone and ends inequality between the poor and the rich. Recently, this topic has once again gained much attention since technological advancements, like during the industrial revolution, are replacing jobs across different industries. Successful entrepreneurs like Elon Musk (2017) or Götz Werner (2008) have spoken out for some form of UBI and publicized the discussion again. The ideas of a UBI can be compared to the original ideas of Marxism and Communism (Engels, 1892). Trying to envision a future society where technology has replaced most of the jobs is very difficult. Strong changes will need to be made to the current governmental system for continued success. Implementing UBI through an increase in taxation might not be the perfect solution for the upcoming problems. Technological advancements in the next century will initiate a paradigm shift in society and might help in enabling a new kind of communism: Universal Basic Ownership. The Universal Basic Ownership is the shared ownership of production capabilities and it can help make an idea like the UBI possible. We ask ourselves whether technology, and specifically automatization on a global scale, allow for this new form of communism.

While the UBI is being hailed by many as one of the major ideas to combat the problem of growing inequality around the world, it has many unanswered issues and problems. One of the most important questions to answer is, what we are trying to achieve with a UBI. Nowadays, there is a big libertarian movement, saying that everyone should easily have the access and the freedom to do whatever they want in their lives. A UBI could provide such opportunities. In many discussions, a UBI is not even seen as a solution for inequality, though this is a side effect (Van Parijs, 1992). If we view the UBI as a method to redistribute wealth and decrease inequality we quickly face a financial issue. If we begin to consider such a colossal budgetary policy change and ways of financing a UBI we quickly reach the limits



of a country's budget. Economists generally agree that a UBI is not feasible to fund today (Habermacher & Kirchgässner, 2013). Financing such an idea through income tax or added value tax is simply not doable. On the other hand, a very specific social system can easily be more effective than a general UBI and therefore save the government money. Another important argument for the UBI is the aspect of decreasing the bureaucratic burden of social systems in a country and therefore eliminating work in governments. But this elimination of bureaucracy is becoming a reality through the advancements of technology anyways (Ma, Chung, & Thorsen, 2015). With automatization, even specific and complex social systems can be organized and managed with a few people and broad computer systems.

Some of the main creators of the ideas behind communism foresaw a lot of the issues we are facing again today. There is a threat in technology and ownership of production capabilities that creates a divided society of two classes: the proletariat and the bourgeoisie (Marx & Engels, 1969). The original solution proposed, was to let the workers in factories take ownership in the factory. Production capabilities should be shared. This idea was never implemented in any country in its final form but there were many deviations. The Marxist-Leninist states like the Soviet Union and China are often falsely called Communist. They intended to achieve Communism through increased Socialism and are ruled by communist parties but encountered many issues in creating true Communism. Three of the major problems with communism have always been a lacking incentive to continue working and innovating (Alesina & Fuchs-Schündeln, 2007), missing possibilities for the working force to govern their own jobs (Brzezinski, 1987), and a loss of individual liberties (Balcerowicz, 2002). First, in a capitalistic system, you have the free market that adjusts wages accordingly to supply and demand. Without wage-driven incentives, people might not be motivated to work anymore. Therefore, societies and economies become less innovative, which in turn decreases their economic output and can drive a country into a depression (Przeworski & Limongi, 1993). Additionally, creating companies and workforces that can effectively be governed by the workers themselves has never been feasible and successful enough to compete with the hierarchical model of capitalistic societies. Finally, the past has shown that nearly every communistic system came with major drawbacks: limited free speech, limitation on political organization and corrupt justice systems (Balcerowicz, 2002).

Technological advancements have recently been making major strides, even jobs in software engineering, medicine, or law aren't safe from automatization (Frey & Osborne, 2017). The collection of resources and the creation of agricultural products can already be completed by just very few people. Production of refined materials and products is already being automated right now - factory workers are being replaced by robots every single day. The service sector has always seemed secure from automatization but that has been shown not to be the case (Frey & Osborne, 2017). As automatization and new technologies move production capabilities to fewer people, the division between the rich and the poor will continue to increase. One can easily envision a scenario where just a few people control the production capabilities, collect resources, produce goods, and provide services with the help of new technologies to the whole world. The major difference compared to the industrial revolution will be that these few people do not necessarily need the rest of society. During the industrial revolution, all the factory workers could just go on a strike, but nowadays no one can necessarily

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force the robots to stop working. A new system will need to be created to deal with this growing imbalance in how wealth is created and who profits from it.

While social systems will continue to be a valid choice for dealing with inequality these might not be the best systems in the next centuries. With new technology, something decisive is likely to happen: innovation and progress themselves become automated. With these changes, we just might be able to fix the bigger issues of the current form of communism. Especially, as soon as we have technologies that can change themselves, adapt to changing environments, and improve themselves. If we reach this singularity it does not matter anymore whether we can incentivize a workforce for our economies to work. It will not matter if people do not want to work anymore since we can just program these incentives into the machines that provide many of our needs. So far, communism has usually been implemented with an organizing class to manage the economic development of a country and the workforce. It often wasn't possible for workers to effectively organize the production capabilities themselves without leadership. As technology advances, we can have algorithms and artificial intelligence manage our production capabilities completely. If applied correctly, this can also minimize the chance of corruption and limitations on individual liberties. Therefore, the same problems that have plagued communism before will cease to exist in the future and possibly be solved by technology. The philosopher Thomas Paine (1789) initially proposed that every citizen has a right to use common natural resources and that civilizations have constantly violated these natural rights to the extreme by the usage of property laws. In the same sense, a future society could have shared ownership of the production capabilities. This Universal Basic Ownership provides an opportunity to fund a UBI for all. Any person, born in a country shall receive a stake in its countries resources and production capabilities that will fund a basic income for him or her. These stakes should be managed and organized by the government in a transparent and effective way. This does not entail an abolishment of capitalism, there will still be jobs and there will still be competition. As society progresses and advances those production capabilities that can be executed with minimal efforts using technology could become part of the government, and therefore the people, and then fund a UBI. As these production capabilities reach high profits with decreasing costs, they will generate incredible wealth for their owners. While taking away someone's property should always be carefully considered, this might be one of the only ways for a society to continuously function in the future.

In the next centuries, this society will define itself by how it deals with the growing imbalance between the rich and the poor. On the one hand, a UBI cannot be financed through the current taxation system. On the other hand, communism has not been successfully implemented in governments without facing some major issues. Technological advancement will push humanity to a point where one can create a society with ideas from both capitalism and communism that can lead to a fairer distribution of wealth. In the end, the outcome of the Universal Basic Ownership is just as simple as a UBI: People receive a living wage without having to work for it. Predicting the future and the possible outcomes is not an easy task. Universal Basic Ownership as an idea is not new but a paradigm shift in the upcoming decades is needed to deal with the growing inequality. Rethinking ownership in its current form will be a difficult discussion but might be the only way to deal with these global phenomena.



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References:

Alesina, A., & Fuchs-Schündeln, N. (2007). Good-bye Lenin (or not?): The effect of communism on people's preferences. *The American Economic Review*, 97(4), 1507-1528.

Balcerowicz, L. (2002). Post-communist transition: some lessons.

Brzezinski, Z. (1987). The crisis of communism: the paradox of political participation. *The Washington Quarterly*, 10(4), 167-174.

Elon Musk says Universal Basic Income is "going to be necessary." (2017, February 16). Retrieved June 09, 2017, from <https://www.youtube.com/watch?v=e6HPdNBicM8>

Engels, F. (1892). Socialism, Utopian and scientific (No. 56). S. Sonnenschein.

Frey, C. B., & Osborne, M. A. (2017). The future of employment: how susceptible are jobs to computerisation? *Technological Forecasting and Social Change*, 114, 254-280.

Friedman, M. (1968). The case for the negative income tax. *Republican papers*, 202, 220.

Habermacher, F., & Kirchgässner, G. (2013). Das garantierte Grundeinkommen: Eine (leider) nicht bezahlbare Idee. School of Economics and Political Science, Department of Economics, Univ.

Ma, L., Chung, J., & Thorson, S. (2005). E-government in China: Bringing economic development through administrative reform. *Government Information Quarterly*, 22(1), 20-37.

Marx, K., & Engels, F. (1969) Marx & Engels Selected Works, Volume One, pp. 81–97, Progress Publishers, Moscow, "Principles of Communism". #4 – "How did the proletariat originate?"

More, T. (1963). *Utopia* (1st Latin edition, Louvain, 1516), English translation by Paul Turner, Harmondsworth. Penguin Classics.

Paine, T. (1797). *Agrarian Justice, Opposed to Agrarian Law, and to Agrarian Monopoly: Being a Plan for Meliorating the Condition of Man, by Creating in Every Nation a National Fund, to Pay to Every Person, when Arrived at the Age of Twenty-one Years, the Sum of Fifteen Pounds Sterling, to Enable Him Or Her to Begin the World; and Also, Ten Pounds Sterling Per Annum During Life to Every Person Now Living of the Age of Fifty Years, and to All Others when They Shall Arrive at that Age, to Enable Them to Live in Old Age* Paris: printed by W. Adlard, Rue Menilmontant. London: reprinted and sold by J. Adlard, No. 39, Duke Street, Smithfield, and J. Parsons, No. 21, Paternoster Row.

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Paine, T. (1984). The Rights of Man. 1791-92. II/4 (Ausc. v. Henry Collins, Harmonds-worth: Penguin Books, 1969, S. 207).

Przeworski, A., & Limongi, F. (1993). Political regimes and economic growth. The journal of economic perspectives, 7(3), 51-69.

Van Parijs, P. (1992). Arguing for basic income. Ethical Foundations for a Radikal Reform, New York.

Van Trier, Walter (1 April 1989). "Who framed social dividend? A tale of the unexpected". University of Antwerp, Faculty of Applied Economics. Retrieved 28 July 2016.

Werner, G. W. (2008). Einkommen für alle: der dm-Chef über die Machbarkeit des bedingungslosen Grundeinkommens (Vol. 60607). Bastei Lübbe.



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UNIVERSAL BASIC INCOME AS A NEW CONCEPT FOR DEVELOPMENT AID

In 2017 Germany provides a budget of 8.5 billion euros for development aid [1], which consists of bilateral cooperation (4.1 billion), multilateral cooperation (1.667 billion), cooperation with civil society (987 million), European Development Fund (822 million), special initiatives (685 million) and others (256 million). In bilateral development aid cooperation agreements, the German government transfers the permitted aid directly to the partner government based on regular contract negotiation rounds. Focus areas are the sub-Saharan region, the Balkans, south-east Asia, Latin America and the Middle East [1]. With the motivation to improve the local living conditions and thereby fight terrorism and stabilize the world's economy, Germany supports education initiatives in refugee camps in Syria, Lebanon, Jordan, Turkey and Iraq, helped to redistribute more than 9 million hectares of agricultural land to disadvantaged residents in Namibia and invested 1.5 billion euros in food security and rural development [2]. While most of the bilateral development cooperation projects focus on particular infrastructure improvements (e.g., inter-country water accessibility [3]) or training for security and intergovernmental cooperation [3], multilateral development institutions rather focus on fighting poverty and improving the actual living conditions of residents, e.g. the OECD, UNICEF, WFP or WHO, but with limited financial capacities and limited support of the local governments.

Therefore, the majority of the projects consider particular aspects of the residents' living conditions only, resulting in uncoordinated, disconnected and unsustainable efforts. Although the specialization on certain problems in developing countries enables the donor countries to employ gained expertise in these fields, it neglects the fundamental resource of every country's development: the enabled resident. Development of infrastructure or education offers fall short when these stay unused due to underprivileged families, e.g. when the children have to work on farms together with their families or sell cigarettes on streets and therefore remain uneducated. In fact, the fight of surviving challenges the families and other residents in their daily life and paralyzes them. Hence, the societies of developing countries are prone to autocratic systems and civil wars, since these promise control, orientation and fast solutions for the survival. Aid efforts often try to cure the symptoms of poverty instead of addressing the grounds, the paralyzing conditions of lacking basic living provisions in its most effective form: monetary income.

The government of Namibia conducted the study "Basic Income Grant" on universal basic income in the village Otjivero-Omitara from January 2008 until March 2012 [4]. In this study, everyone of the mid of 2007 registered residents of

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Otjivero younger than 60 years old, in total 940 participants, received a basic income of 100 Namibian-Dollars (~6,92€, as of June 2017) every month. The residents older than 60 years old were covered by the minimum governmental pension. All participants received a 'smart card' for the payout containing their personal data, photo, fingerprint and the financial records. Part of the study was the provision of local cash dispensers for the smart cards [5]. Even though the study did not fulfill strict scientific standards [6], the evaluation showed a comprehensive improvement of the local living conditions, specifically in the absence of malnutrition, increased motivation and self-confidence of the residents, a substantially higher school attendance rate and in an improved equality between women and men [4], since the women managed their own income and that of their children as well. The longer UBI was applied, the lower the unemployment rate became [4]. This is one of the key results, since one of the strongest counterargument of UBI is an alleged laziness coupled with the payments. Another positive aspect was the rising number of company foundations of people, who used the UBI income as start capital. Additionally, the average salary rose. But the implementation of UBI led to a higher migration to Otjivero as well. Implementation of UBI in Namibia would cost around 2,2% - 3% of Namibia's GDP per year [4], which is around 254 million USD dollars (Namibia's GDP as of 2015, latest available data).

Another similar pilot project in India resulted in comparable outcomes. The Self Employed Women's Association (SEWA) and UNICEF India conducted a UBI study in eight villages in Madhya Pradesh with around 15000 residents and having twelve similar villages in the surroundings as a control group. From June 2011 until May 2012, they paid 4.40 USD/month for every woman and man and 2.2 USD/month for every child without any conditions [7]. Again, the nutrition conditions improved, the school attendance rose immensely and the equality between women and men enhanced significantly. The evaluation of the project study reports that the residents started to save money and have fundamental assets like a bed. Most of the residents immediately started to make improvements to their dwellings, especially in terms of walls and roofs [7]. Also in the area of health, many conditions improved. The number of acquired health insurances rose and the overall incidence of common illness decreased in the granted households [8]. Granted persons were three times more likely to start own businesses than persons of the control group. The implementation of UBI with 4.36 USD/month for every adult and 2.18 USD/month for every child in India would cost 3.2% of India's GDP [7], which is 66,36 billion USD per year. Even though India is capable of funding UBI on its own and currently considering of implementing it for its poor regions [9], the actual results of this study are a good indicator for the impact of UBI in developing regions.

As mentioned before, the goals of development aid are creating secure and rising economies of partner countries to fight poverty, facilitate economic expansion, to reduce migration stream and defeat terrorism worldwide. Having these goals in mind, the support of governments implementing UBI in their country is a powerful tool together with further investments in the infrastructure to create a sustaining and significant growth of the entire society in such countries. Even more, due to the distinct rise of the school attendance rate of children, when the families can be sure about their survival even without the need of the children's support, the societies gain an important educated mass within years that can not only support the country in implementing new technology, but also serve as the best accelerator for democratic systems.

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Issues of implementing UBI in developing countries can arise in autocratic countries or in sub-regions controlled by clans to be more specific. Since the government is often not able to protect the residents against such clans, the power of the clan leader might lead to so called protection money payments. Therefore, caution must be exercised to control the actual usage of the money in such vulnerable regions. Also, an unbalanced introduction of UBI in developing countries can lead to uncontrollable migration possibly accompanied by armed conflicts.

Concluded, universal basic income can serve as a proper add-on or alternative concept for the current development aid consisting of 131,6 billion USD dollars in total per year (as of 2015) [10], since UBI improves the living conditions, education and motivation of the local residents in a sustainable manner that no other aid can provide. Therefore, the support of UBI initiatives in developing countries should be considered by the donor countries.

SOURCES

- [1] Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung, „Haushalt,“ 02 06 2017. [Online]. Available: https://www.bmz.de/de/ministerium/zahlen_fakten/haushalt/index.html.
- [2] Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung, „Making a difference,“ BMZ division for public relations, Berlin, 2017.
- [3] Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung, „Regional cooperations in Africa,“ BMZ division for public relations, Berlin, 2011.
- [4] Basic Income Grant Coalition, „Making a difference: BIG in Namibia,“ Friedrich Ebert Foundation, Namibia, 2009.
- [5] H. e. al., „Towards a Basic Income Grant for All, Assessment Report,“ 2008.
- [6] K. Widerquist, „Social safety nets in Namibia: Assessing current programmes and future options,“ 2013.
- [7] R. Schjoedt, „India’s Basic Income Experiment,“ Pathway's Perspective on social policy in international development, Orpington, UK, 2016.
- [8] G. Standing, „Unconditional Basic Income: Two pilots in Madhya Pradesh,“ Delhi, 2013.
- [9] C. England, „Indian government survey says universal basic income could combat poverty,“ Independent, 31 January 2017. [Online]. Available: <http://www.independent.co.uk/news/world/asia/india-universal-basic-income-combat-alleviate-poverty-economic-survey-a7555416.html>. [Zugriff am 4 June 2017].
- [10] statista, „Ranking der größten Entwicklungshilfe-Geberländer im Jahr 2015 (Netto-ODA* in Milliarden US-Dollar),“ 2017. [Online]. Available: <https://de.statista.com/statistik/daten/studie/12294/umfrage/ranking-der-groessten-geber-von-entwicklungshilfe/>. [Zugriff am 4 June 2017].

THE FUTURE OF TRANSPORTATION AND ITS IMPLICATIONS ON FOR A UNIVERSAL BASIC INCOME

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Introduction

The Universal Basic Income (UBI) is a form of a single, unconditional money transfer, delivered periodically to individuals. The UBI consists of five characteristics: It is paid at regular intervals (periodicity) in an appropriate medium of exchange (cash payment) on an individual basis (individuality). Furthermore, it is universal and unconditional, meaning it is paid to everyone without any reservations, a requirement to work, or the willingness to work while receiving a UBI [1]. A UBI can also be seen as a form of social security.

While the basic idea of the UBI can be dated back to the 16th century with humanist Thomas More's Utopia from 1516 describing the idea as an astute way of fighting theft [2, 3], the concept has recently experienced a revival with the advancements in automation and robotics within the last years [4]. The greatest impact of advances in automation on the global job market will arguably happen in the transportation sector. The following paragraphs will therefore give an overview of the latest trends in transportation technologies, their implications for the future of human labor in this sector, and ultimately, their combined effects on society. The evolution of transportation has largely been dependent on technical progress over the last decades [5]. Thus, this area may serve as a paradigmatic example for the impact of automation and technology improvements on the job market and their implications on public policy.

Trends in Transportation Technologies



Forms of transportation have undergone dramatic change since the beginning of the Industrial Revolution. The early history of transportation is largely based on the technical advancements of humanity and can be separated into different types of carriage medium [6]. While humans have relied on domesticated animals, canoes, carriages, and wooden ships for more than a millennium [7], the invention of the steam locomotive in the beginning of the 19th century by Rebert Trevithick and others marks a milestone in transportation technology and led to the first transportation on rails, paving the way to enabling, for the first time, long-distance heavy duty carriage [8]. The invention and mass production of the gasoline automobile marks a milestone in two aspects. First, it enabled a personal on-demand mobility and independence [9], and second, it facilitated the inauguration of the first moving assembly line in 1913 and the start of industrial mass production of personal transportation vehicles [10]. As of today, in combination with bicycles, the rail and the car still remain the most used forms of transportation around the world.

With further technological progress, three major trends currently evolve that will shape the future of the transportation industry. It is predicted that by 2050, more than 80% of the developed world will be urbanized and therefore the majority of all citizens will be living in megacities [11]. Thus, new ways of transportation within cities will be a major driving factor, aiming for fast and cost-efficient solutions, while avoiding permanent congestion. One trend that is already impacting transportation solutions today is the sharing economy, where transportation vehicles are no longer held privately, but are shared within a community [12], resulting in a lower demand of vehicles as well as a more efficiently used infrastructure and less space needed for parking. In addition, technology-enabled organization for the improvement of transportation flow offers an area of sustainable traffic development, by balancing overuse and underuse of the transportation infrastructure through data-driven connectivity approaches. Lastly, autonomous transportation will likely have a tremendous impact on the future of transportation. Full autonomy, enabled by advances in processing power and computer vision, may enable a type of transportation which circumvents the need for any active driver. If achieved, full autonomy would most likely decrease the incentive to own a car as an individual, but reinforcing the trend of a sharing economy, coupled with algorithm-based solutions to maximize vehicle usage efficiency [13].

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Discussion

The trends in transportation technology incite a discussion about their potential repercussions in politics and society. Autonomous transportation will likely have the biggest impact on how individuals and cargo will be transported in the future, including not only the autonomy of ground transportation in the form of self-driving cars, but also autonomous drones for cargo delivery [14]. In the United States, truck driver is the most common occupation in 2017. There are 9 million employees working in the transportation sector, whose workplace it at least theoretically replaceable by machines once full autonomy in transportation is achieved. The obvious ramifications of such mass layoff on income structures and social stability have reinvigorated the argument in favor of a UBI [15]. The introduction of a UBI, using revenues obtained from the vast increase in transportation efficiency at substantially decreased cost for personnel, would enable to maintain social stability at the face of massive unemployment. Assuming that changes in the transportation industry will be adapted by society and industry at a pace close to other recent technological advances of similar scope, such as the internet and mobile phone usage, a UBI might present the only conceivable way to avoid catastrophic consequences in both the public and private sector.

On the other hand, one may argue that automation and autonomy in transportation, rather than inducing economical collapse, may stir the shift between industrial sectors. Such a development is reminiscent of the third industrial revolution [16], which led to a movement out of agricultural jobs and other occupations in the primary industry towards an extension of the service industry. The same change could analogously be happening with the “fourth industrial revolution” as well, this time with a shift away from occupations in manufacturing, rather than the complete elimination of work. In addition, automation could also lead to a boost in productivity and innovation and therefore faster economic growth and wealth that circumvents the need for a UBI to ensure social security.

Summary

As the history of transportation has shown, forms of transportation have changed rapidly within the last decades, with advancements in technology being the driving factor behind that change. While extrapolating the future from past developments can be misleading, similarities in the effects of technology progression on economy and society in today’s change of transportation can be examined as well, arguing against the introduction of a UBI as of today, and leading to a shift between industrial sectors.

However, assuming any rate of technological advancement at all, artificial intelligent robots will become more advanced than humans in every kind of activity, therefore making some kind of UBI necessary in the long-term future, securing fundamental human needs. Society and government will need to find the right time for its implementation.



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References

1. About basic income
<http://basicincome.org/basic-income/>
2. Forbes, 5 Things You May Not Know About Basic Income
<https://www.forbes.com/sites/mayakachroolevine/2017/02/27/5-things-you-may-not-know-about-basic-income/#1e83d18f343f>
3. History of basic income
<http://basicincome.org/basic-income/history/>
4. Forbes, Will Robots Take Our Jobs? We May Be Overreacting
<https://www.forbes.com/sites/washingtonbytes/2017/04/03/will-robots-take-our-jobs-we-may-be-overreacting/#753013f0312e>
5. International Transport Forum, Driving Forces of Innovation in the Transport Sector,
<https://www.itf-oecd.org/sites/default/files/docs/10fp06.pdf>
6. Wikipedia, History of Transport
https://en.wikipedia.org/wiki/History_of_transport
7. The Atlantic, An Animated History of Transportation
<https://www.theatlantic.com/video/index/397865/animated-history-transportation/>
8. <http://www.historytoday.com/richard-cavendish/george-stephensons-first-steam-locomotive>
9. Setright, L. J. K. (2004). Drive On!: A Social History of the Motor Car. Granta Books.
10. History Today, George Stephenson's First Steam Locomotive
<http://www.history.com/this-day-in-history/fords-assembly-line-starts-rolling>
11. Economist, Ford's assembly line starts rolling
<http://www.economist.com/news/special-report/21564998-cities-are-turning-vast-data-factories-open-air-computers>
12. Deloitte, The rise of the sharing economy
<https://www2.deloitte.com/us/en/pages/consumer-business/articles/the-rise-of-the-sharing-economy-impact-on-the-transportation-space.html>
13. Recode, Autonomous driving is here, and it's going to change everything
<https://www.recode.net/2017/4/19/15364608/autonomous-self-driving-cars-impact-disruption-society-mobility>
14. TheVerge, Watch Amazon's Prime Air drone make its first demo delivery in the US
<https://www.theverge.com/2017/3/24/15047424/amazon-prime-air-drone-delivery-public-us-test-mars>
15. Forbes, Will Robots Take Our Jobs? We May Be Overreacting
<https://www.forbes.com/sites/washingtonbytes/2017/04/03/will-robots-take-our-jobs-we-may-be-overreacting/#3cf937e8312e>
16. World Economic Forum, The Future of Jobs
http://www3.weforum.org/docs/WEF_Future_of_Jobs.pdf

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BASIC INCOME MODELS

The topic of a Basic Income (BI) gathered pace in the past few years driven by the fear of mass-unemployment due to technological advancements and the associated automation of millions of jobs [1], [2, pp. 6–7]. Besides discussing whether this fear is reasonable, the community around the idea of BI also argues about philosophical, political, and economic matters.

Should a guaranteed income be a birthright to ensure equality of chances among all individuals? Might a BI rather lead to the collapse of a capitalistic society or to its abundance? What are the major political challenges to surmount?

In terms of economic questions, a large block of discussions naturally centers around the question whether such an Idea is viable in general, and if so, how. For this matter, economists and philosophers theorized a variety of BI models over time, each model with its benefits and drawbacks. This essay elaborates on the three foundational forms of BI and their characteristics.

Working Definition of Basic Income

Before diving into the topic of BI models, I want to give a brief overview of how BI is defined and how it is characterized in general. Following the Basic Income Earth Network (BIEN), a “basic income is an income unconditionally granted to all on an individual basis, without means test or work requirement” [3], [4]. That is, a BI should also be paid individually (i.e. to each person rather than to households) and it should be paid irrespective of any income situations or the willingness to work of an individual [3], [5]. To cover the full scope of the topic around BI, this definition is written rather broadly, allowing for manifold variations of BI. However, there are also models which do not perfectly match this definition, yet they are considered to be a form of BI.

General Rationale of Basic Income

To understand the assessment of the different BI models, one should upfront understand the general rationales behind it. It must be mentioned, that the rationales and arguments in this essay are only a small subset of a larger discussion. This subset is meant to provide a basis to argue upon for and against the different models of BI.

As written in the intro, the threat of potential mass-unemployment is a current argument for BI, yet it is not the only one. BI grants the freedom to not be employed and the power to say no (to e.g. underpaid labor) [6, p. 86]. This freedom

is accompanied by a huge implication: BI allows everyone to regain the bargaining power in terms of employment and enables each individual to acquire the necessary skills to leave poverty and employment traps [4, p. 402]. This will encourage more people to spend their time on intrinsically motivated and rewarding activities [2, p. 19]. Ultimately, this will lead to a more efficient labor market in terms of job allocation and labor distribution [2, p. 25].

As indicated by the prior argument, BI will reduce, if not eradicate, poverty [7]. This in turn will establish a higher level of equality among all individuals and potentially lower the crime rate as nobody “must” steal something or commit benefit fraud to make a living [8].

On the other hand, we also find objections in the debate about BI. Two major concerns are, first, the concern that BI might lead to lower incentives for labor rather than to a heightened willingness to work, and second, whether such a BI is financially viable after all [4, p. 402].

Overview of the Models of Basic Income

The three major forms of UBI are the Unconditional Basic Income (UBI, also National / Universal Basic Income or Demogrant), the Negative Income Tax (NIT), and the Social Dividend (SD, also Citizens’ dividend). After a brief description, I will outline the rationale for each of these models alongside with its advantages and disadvantages. In political discussions, these models are often combined with one another, yet this essay focuses on these three basic forms.

Unconditional Basic Income (UBI)

The most basic model of BI is the Unconditional Basic Income (UBI). Its main concept is to provide every citizen with a certain amount of money, regardless age, gender, current income, or any other examinations [6, p. 83]. Thus, the UBI could be seen as a birthright [6, p. 88]. The amount of money thereby should be high enough for a person to live a graceful yet modest life [6, p. 86] and should only cover the basic needs like food, security, health, and accommodation. The UBI should also supersede all current welfare programs, thereby cutting their administrative efforts and dissolving the need for any case examination [5, p. 15].

The financial resources for an UBI thereby should derive from two sources: From the resources becoming available from stopping current welfare programs (resp. social security systems) and from the savings due to lower administration and examination efforts of those stopped programs [5, p. 15]. The remaining gap towards making a UBI available then could be filled from higher value added taxes (VAT) [9] which shifts the main source of taxation from income to consumption.

Given this scheme, UBI would equally provide every person with the same amount of benefits regardless of the person’s need for financial support. However, the financial strain from such a system is massive and maybe not manageable for both developed (substantially larger number of UBI receivers than social security receivers) and developing (small financial household) economies. Yet, we can also find a great opportunity: As UBI allows individuals to live independent of work, it empowers them to fulfil their aspirations and actualize their dreams. Following Werner (2015) [10], every individual has the innate drive to actualize him- or herself. Under this assumption, individuals will not stop to work when they receive a

UBI, but they will instead aspire to work for something worthy in their lives. Nevertheless, it remains a philosophical question whether this notion about the attitude of humanity would turn out to be correct under a UBI or if most individuals would stop working as there is no monetary incentive anymore.

Social Dividend (SD)

The Social Dividend (SD) appears fairly similar to the UBI from a receiver's point of view: Everybody receives the same amount of income on a regular basis. However, the SD has another foundational rationale and another source of financing.

As proposed by Thomas Paine in 1795 [11], the earth itself in its uncultivated state is a common propriety of all humans. This would also extend to capital assets which were derived from natural resources (as it was realized in the SD case of Alaska [12]). Following this argument, it appears that every natural resource which was harvested by a person or public institution was taken from the other humans and is no longer available to them. To re-establish justice, Paine proposes to pay a regular dividend as reimbursement to those who were limited on their possession [11]. This dividend again should not depend on the income or wealth of each individual.

Thus, the funding for a SD should come from natural resources in the form of taxation or from directly harvesting those resources.

Negative Income Tax (NIT)

The third major form of BI is the Negative Income Tax (NIT). In the NIT system, a basic income level is set which defines the minimum guaranteed income one should receive for a proper living. Everybody who earns above this income level would have to pay a progressive tax on his or her income. On the other hand, everybody who earns below this level would get a supplemental payment which fills the gap between their labor income and the basic income level [5, p. 14]. As a result, nobody would have an income below the basic level, yet those individuals who earn beyond that level would not receive any governmental benefits. In its basic form, NIT is applied to each individual, but it would also be imaginable to apply it to households rather than to individuals to factor in the declining costs for a multi-person household [5, p. 25].

Economists also expect the NIT system, just as UBI, to bear a large potential to save administrative costs for taxation and the welfare system [13, p. 192]. These savings could then be returned to the citizens to finance the NIT. Besides, due to the regressive nature of NIT, this model is also expected to be cheaper from an overall cost perspective [13, p. 193] as the benefits are only paid to the ones in need. However, it is apparent that this system would impose a liability on the people with high salaries to pay for the people with a below-basic level income [13, p. 194]. This obligation then might bring some political issues with it.

Critical Statement

Considering these three models of a BI, I don't believe that there is one ultimate solution.

Concerning the financial aspect, I see the biggest challenge for the model of UBI as savings from administrations and prior social security systems might not suffice to fund a full BI. As proposed by Duchatelet (1994) [9], increasing the VAT might

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be a solution to this gap, yet this approach also brings some pitfalls with it. If the financials for funding a UBI come from the consumption of goods and especially from the VAT, this might lead to a massive increase in the gross prices of goods which in turn would aggravate the financial situation for those people who only receive UBI. This development would tend to increase the overall price level and, therefore, the demand for a higher basic income to avoid poverty. This, in turn, demands for higher VAT to finance the UBI. If not executed the right way, this model of financing a BI might lead to a vicious cycle of inflation and an even stronger divide between rich and poor.

A possible solution for this issue might be an elaborate plan which balances out the effects of increasing the VAT. For example, a combination of the two models of UBI and SD might alleviate the urgency of increasing the VAT and support the financing of the UBI benefits. However, it might be a major political challenge to introduce the necessary taxations to realize a SD retrospectively as this will affect large industries and lobbies like the agribusiness and oil business. Also, this is no feasible approach for countries with poor natural resources as the SD might not be high enough to level out the inflation threat from an increased VAT.

Having a look at the NIT, this certainly is the financially most viable model (given the right choice of parameters such as tax exemption, tax rate / tax rate progression, subsidy rate etc.). It offers a guaranteed minimum income at lower costs than UBI, fulfils the requirement of equalizing chances, and it provides a basic security and the *option to say no* to underpaid jobs for everybody.

However, it is not as comprehensive as UBI from a social perspective since it phases out the benefits as soon as an individual earns money. This phasing out inevitably connects labor and income so that the work somebody does is valued by the income he or she earns with it (as it partly is the case in our current society). If an individual now works for an income lower than the basic level, it would not change the available, overall income of this individual in the NIT system. The perception of the value of labor would then suggest that the work is worth nothing since the overall income has not changed from the perspective of the individual. Thus, the phasing out of benefits could be a severe discouragement to pursue an occupation. It might even lead to benefit fraud and illegal employment which in turn would require bureaucratic controls of labor.

In any case: I believe that the introduction of a BI will be inevitable, given the future technological developments and the ongoing automation of jobs. A BI bears the potential to live in an utopian world where nobody has to work for something he or she does not believe in. It is the pathway to future abundance and maybe the only chance for us to fulfil the generations contract to allow our subsequent generations an even higher standard of life as the one we experience. For this matter, I think that any model has the potential to fulfil this function. It only needs to be deployed in the right way and at the right time.

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References

- [1] C. B. Frey and M. Osborne, "The Future of Employment," 2013.
- [2] P. Van Parijs, "Arguing for basic income," *Ethical Found. a Radic. Reform*, 1992.
- [3] Basic Income Earth Network, "About Basic Income," 2017. .
- [4] C. Clark and C. Kavanagh, "Basic Income, Inequality, and Unemployment: Rethinking the Linkage between Work and Welfare," 1996.
- [5] P. Van Parijs, "Basic Income: A Simple and Powerful Idea for the Twenty-First Century," *Polit. Soc.*, vol. 32, no. 1, pp. 7–39, 2004.
- [6] C. Pateman, "Democratizing Citizenship: some advantages to Basic Income," 2003.
- [7] I. Garfinkel, C.-C. Huang, and W. Naidich, "The effects of a basic income guarantee on poverty and income distribution," *Redesigning Distrib.*, p. 117, 2003.
- [8] G. Standing and M. Samson, *A basic income grant for South Africa*. Juta and Company Ltd, 2003.
- [9] R. Duchatelet, "An economic model for Europe based on consumption financing on the tax side and the basic income principle on the redistribution side," in *5th BIEN Congress (London)*, 1994.
- [10] G. Werner, "Eine Utopie: Bedingungsloses Grundeinkommen für alle." zeitonline, 2015.
- [11] T. Paine, *Agrarian Justice*. 1795.
- [12] Alaska Permanent Fund Corporation, "What is the Alaska permanent fund?," 2017. .
- [13] M. Friedman, *Capitalism and Freedom: Fortieth Anniversary Edition*. University of Chicago Press, 2009.



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Florian Alexander Scherer

COULD AUTOMATION FINANCE A UNIVERSAL BASIC INCOME?

A Universal Basic Income (UBI) would guarantee that every person has enough money to lead a good but basic life, without having to work for it (Werner, Eichhorn, & Friedrich, 2012). While the idea has been around for a while, the biggest issue has always been financing, with some researchers calling a UBI impossible to finance (Habermacher & Kirchgässner, 2016). However, the discussion about UBI is of increasing importance and gaining a lot of momentum due to Artificial Intelligence eventually leading to a rapid automation of today's jobs (Frey & Osborne, 2013). Massive automation would result in a rapid displacement of workers and to, at least temporarily, very high unemployment. Universal basic income is a possible, and often discussed, solution to unemployment caused by automation. A much less discussed possibility is that the very same automation, which makes UBI a necessity, might make it easy to finance (Altman, 2017).

The basic assumption is that the majority of today's work will be done by robots or software in the future. Factories will produce our products autonomously and computer programs will provide us with most of the services that we rely on today. Carl Frey and Michael Osborne (Frey & Osborne, 2013) estimated that up to 47% of all jobs are at risk to be automated within the next two decades. If this trend continues at a similar pace, Artificial Intelligence could reduce the price of buying a house to the price of energy and land in the midterm future. A robot would autonomously source the necessary materials before building and furnishing your new home, all on its own. Such enormous productivity gains (which are measured as economic output per hour of human labor) would essentially take wages out of the accumulated costs for all our goods and services and cut prices by up to an order of magnitude.

The industrial revolution gives us a historic perspective on how new technologies can lead to unprecedented price cuts for almost all goods and services. One of the first industries that went through dramatic changes and is a prime example for massive price reductions is the cotton and clothing industry. The spinning of cotton into yarn was one of the first processes to be automated by using the energy of water to power machines. Later on, this led to the widespread usage and mining of coal and therefore paved the way for many technological breakthroughs and marked the start of the industrial revolution. Between 1785 and 1825, this automation of labor caused the price for 100 wefts of yarn to fall by 90% (Harley, 2010). Eventually, similar advancements revolutionized every industry and led to the largest improvement in living standards since humanity invented agriculture.

Similar drastic increases in productivity and decreases in prices mean that the amount of money people need from a UBI would decrease as well - a good quality of life would become cheaper. When people only need a tenth of the money to live decently, a UBI would only cost one tenth for every person. If a good quality of life would be that cheap, a UBI would not only be easier to finance, it would almost become trivial.

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However, the problem is that the definition of what it means to provide a decent standard of living is not absolute and has changed over time. Drastic technological progress not only decreases prices and increases our living standards immensely, but changes the definition for what it means to live a good life.

Technological breakthroughs as well as decreasing prices will bring along whole new categories of products and services. New technology, which was either not possible or not economically viable before, will suddenly find its way into our lives. These new products will start out as a luxury, but with adoption increasing over time some of them will first turn into mass market products and then into products that people can't live without anymore. When people's living standards increased in the beginning of the 19th century, nobody thought about the computers they need to buy or that they might want to use the internet. However, in January 2013, the federal supreme court of Germany ruled that access to the internet is a basic right for all citizens (Wünsch, 2013).

Moreover, people don't judge their standard of living in absolute terms. Most, when thinking about their quality of life, compare themselves with other people around them. This is only natural, since it is very hard to evaluate something without a point of reference. Often you only begin to want something when you have seen somebody else, who already has it. Over time, this will change what people expect from a UBI. While they might not feel like luxurious goods are essential to their life, they will have this essential need once that same product reached widespread adoption. This effect can again be compared to today's social security system in Germany. In the 50's, owning a TV was clearly a sign of luxury, but today owning a TV counts as part of the social standard which determines the amount of money people receive from Hartz IV (AP, 2009).

If prices go down, the expectations that people have towards a good quality of life will increase as well. The total amount of money that a person needs for having a good quality of life will not decrease at the same rate that prices drop. Today we would already be able to finance a UBI which provides enough money to live a good life, measured by the standard of living from the beginning of the 20th century. Overall, the automation of labor might make the financing of a UBI easier and technology might even turn the needle from "not financeable" to "financeable" but the problem will not become trivial.

Bibliography

- Altman, S. (2017, April 5th). Chat with Sam Altman, president of Y Combinator. Retrieved from <https://youtu.be/ZKSNjIAfm88>
- AP. (2009, August 6). *Hartz-IV-Empfänger haben Recht auf Fernseher*. Retrieved June 9, 2017, from welt.de: <https://www.welt.de/politik/deutschland/article4267883/Hartz-IV-Empfaenger-haben-Recht-auf-Fernseher.html>
- Frey, C. B., & Osborne, M. (2013). *The Future of Employment: How Susceptible are Jobs to Computerisation?* Oxford: Oxford Martin Programme on Technology and Employment.
- Habermacher, F., & Kirchgässner, G. (2016). *Das bedingungslose Grundeinkommen: Eine (leider) nicht bezahlbare Idee*. St. Gallen: School of Economics and Political Science, University of St. Gallen.
- Harley, C. K. (2010, May). Prices and Profits in Cotton Textiles during the Industrial Revolution. *Discussion Papers in Economic and Social History*, Nr. 81.
- Wünsch, S. (2013, February 15). *BGH: Internet ist ein Grundrecht*. Retrieved June 6, 2017, from [dw.com](http://www.dw.com): <http://www.dw.com/de/bgh-internet-ist-ein-grundrecht/a-16549914>

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Werner, G., Eichhorn, W., & Friedrich, L. (2012). *Das Grundeinkommen*. Karlsruhe: KIT Scientific Publishing.



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THE UNDERSTANDING OF WORK AND ITS IMPACT ON SOCIETY

What Is Work

What are you doing for a living? Do you work or are you staying at home? From the very beginning of our lives, we are taught a specific understanding of work and are surrounded by preperceived ideas and conceptions regarding its implementation (Hackman, J. R., & Oldham, G. R. 1980). Not only is work the most time-intensive part of our lives, within our western cultural field it also plays an enormous role for the social status one possesses. In consequence, it also affects personal well-being. Hence, individuals often determine themselves via their job (Witte, H. D. 1999).

We define ourselves through work but how are we defining work. Given the high importance work has on our lives it is very interesting how it is understood and classified within society. Although there can be found a vast amount of definitions in research, Goetz Werner identified four main aspects that the majority of society is sharing as their baseline for the understanding of the concept. When asked how they define work, the first thing people come up with, often is salary. In that point of view, work is a job and a real job must be paid. Unless it's not about earning money, it is not considered work. What leads to Werners' other aspects besides *salary*: *bounded by instructions (Weisungsgebunden)*, *social insurance (Sozialversicherungspflichtig)* and concludingly work is considered to be driven by a economical incentive and therefore a *gainful employment (Erwerbsarbeit)*.

Old Work – New Work

These four aspects certainly outline a fragmentary picture of the concept of work. Especially since there are lots of people who are pursuing a job, that does not necessarily underlie the definitions stated above. Such as non-profit work, volunteering, arts, charity or family aid. These sectors of unpaid work made up more than half of Germanys workforce in 2014 (Wolfgang Eichhorn, 19.05.2017). Even though it is not considered work in the broad society. This leads to a reconsideration of the concept of work in general and eventually to a separation into two groups. In the first place, there is **Old-work**, which is based on Werner's findings above where work is considered a salaried job. Old-work is, amongst



others, classified as output orientated, efficiency-seeking and grid-bound. These alignments exemplarily drove the automotive industry to radical improvements and lately enabled automation (Frey, Carl Benedikt, and Michael A. Osborne.2017). Secondly, there is the category named **new-work**. This is work people are willing to do because they engage, intrinsically want to and see a purpose. Although it stays without monetary compensation. The volunteer firefighter network for example, that is securing our countryside villages against risks with their lives at stake. Likewise, a mother who is daily executing various work tasks whilst managing her family.

Categorizing work into these two areas unfolds interesting ideas. Whereas old-work is bought as a resource by a company - one could regard it as a common input good for production such as material goods, knowledge, machines or services. A input that has to be acquired, managed and compensated – New work in contrary has to be enabled by money and is depending on individual human initiative. Following example shows why money could be considered as basic enabler. Imagine a job interview. It is not possible to take a job offer that pays you less than your minimum cost of living. No matter if it is your dream job or how good it would fit your competencies and capabilities. It is the money you earn that enables you to take employment.

The Gap

Those findings are reflected by in my personal experience. When I first engaged with the perception of work, I realized that my understanding differed a lot from the conceptions of my surroundings. Throughout my life, cultural work always played a significant role and I began to take responsibility in volunteer work at an early age. These activities somehow led to founding a non-profit organization that aims to establish a youth empowerment network for musicians in southern Germany. The reactions I experienced in conversations during this intense period were surprisingly different than expected. People considered this a hobby and almost condescendingly showed their higher social status rooted in their subconscious assessment and conviction of superior status through employment. Later, I had the chance to support the expansion of a food-delivery startup. During conversations in this period of time, I gained high social acknowledgement since that was considered a real job. Whereas I was executing almost exactly the same kind of tasks in both areas. The creation of an organization with 100+ members from scratch or establishing business processes in a fast-growing company. One was accepted by society and awarded with status, the other wasn't, whilst to me both were considered work in equal measures.

Furthermore, in alignment to Werner (2008) I experienced that the new-work sector I was investing a lot of time and effort in, must be enabled by money. Without savings from earlier employments and support by my parents, I would not have been able to engage in this cultural work at all.

As far as I can see, this gap in societies perception between old and new work, could disclose an opportunity to solve some of the larger problems modern society is facing right now.

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Change In Society

During the past years, one could note an increasing number of publications in literature and research regarding the topic of automation and how it is eating the world (Groover. 2007). As the awareness of this effect spread, also serious concerns about the future of employment arose. In a dystopian future for instance, all labor of the old-work category is substituted by machines. These circumstances outdate a policy of full employment, leading to a huge unemployed population that faces the question what to do with and how to fund their lives. As a result of these developments, the discussion around Universal Basic Income emerged again. Some research outlined coherence between the progression in industry and a right for human beings to lead a dignified life regardless of their employment, enabled through a universal basic income. Major scholars are considering and trying to forecast the next big shift in labor force and what might be the potential future areas of work, similar to the situation 70 years ago when there was a huge relocation of workforce from the production sector to the service and consulting industry. Before the digital revolution not even the smartest minds could imagine jobs in the - yet to come - computing or IT sector. This thought relativizes the current discussion as for me one sensible possibility is not far to seek. There are already plenty of job opportunities out there, but overseen by society since they are not recognized as a job. And numerous people would be happy to approach doing these jobs. In my estimation, universal basic income stands in strong interdependency with a fundamental change in societies perception of work and to what extent we shift our conviction towards accepting income as an enabler of opportunities.

A New Society

Although I found a lot of accordance with the outlined findings, I do not coincide with all aspects. When Werner is stating *bounded by instructions* as a key element of old-work, for example. I assume there are also lots of self-employed jobs or own businesses within that sector that are not restricted by instructions. Therefore, I would adjust some points and definitions. Still, I am convinced that universal basic income could promote a fundamental reframing of societies perception of work. And by overcoming this perception gap we could enable people to pursue jobs they intrinsically love to do. This sustainably enriches society since it has shown that individuals are more productive when pursuing work, they consider valuable. Within this society, every person would have enough income to secure a basic living.

As stated in the beginning of this paper, social status in society seems to be linked to the job one exerts. What was also reflected in my firsthand experiences. Universal basic income and its effects could lead to a disconnection of status and job and in consequence to more people engaging in the new-work sector.

Doubtlessly, universal basic income could determine how the future role of work in society would look like.



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References

Frey, Carl Benedikt, and Michael A. Osborne. "The future of employment: how susceptible are jobs to computerisation?." *Technological Forecasting and Social Change* 114 (2017): 254-280.

Groover, M. P. (2007). *Automation, production systems, and computer-integrated manufacturing*.

Hackman, J. R., & Oldham, G. R. 1980. *Work redesign*

Werner, G. W. (2008). *Einkommen für alle: der dm-Chef über die Machbarkeit des bedingungslosen Grundeinkommens (Vol. 60607)*.

Witte, H. D. 1999. Job insecurity and psychological well-being: Review of the literature and exploration of some unresolved issues. *European Journal of work and Organizational psychology*, 8(2), 155-177

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Gabriela Ginard

WORK TRANSFORMATION UNDER UBI

What would work look like in a UBI Setting?

Working in today's world is drastically different, then it was 20 or even 15 years ago. The advancements in digital technology are transforming the way we work. Most of us apply online, work online, and wouldn't know what to do without a computer and a working internet connection. Additionally, automation is taking over jobs faster than new ones are being created [1]. This has awakened the discussion on a universal basic income (UBI): an income for every citizen, no questions asked, that covers the basic needs. A question that naturally arises when discussing the possibility of a UBI is whether people would continue to work under such a model. In this essay I will argue, that the concept of work is going through a transition and that UBI would accelerate the acceptance and adoption of this change.

An increasingly interconnected world and the progress in digital technology is changing the nature of work. Almost every job is being reinvented because of trends such as: the growth of talent platforms and crowdsourcing, the increasing power of robotics and cognitive computing to restructure jobs, the effort to collaborate with these technologies and not compete with them, and the sharing and collaborative economy. More people are self-employed, or accept contract work, with the gig economy offering them the flexibility 9-to-5-jobs cannot [2].

Additionally, millennials' entrance to the workforce has caused employers to rethink what they need to offer their employees in order to retain them. Millennials seek personal success and recognition, but many of them also think they have a higher calling [3]. According to a survey by the communication and marketing agencies Cone Inc. and AMP [4] more than 60 percent of 13- to 25-year-olds said they feel personally responsible for making a difference in the world, in 2006. Fair salaries matter for millennials, but it takes more than a steady paycheck to keep them motivated. Feedback, praise and new responsibilities being the top of that list. [5]

We live in an age where unconventional ideas become conventional wisdom rapidly. Digital technology is leading a transformation from the subject of work to the meaning of work. Many organizations are just at the beginning of cultural transformation in response to the advent of digital technology. An example is the healthcare industry, where "[AI] could organize patient routes or treatment plans better, and also provide physicians with literally all the information they need to

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make a good decision" [6]. Despite the continuous rise in knowledge, workers, and the transformation digital technologies have unleashed over the last years, we haven't done enough to question "how we've always done things" and redefine "why we do things". Millennials are leading this paradigm shift. They want to work on something they know will have an impact and will create value for humanity.

Beside millennials demanding a lot more of their job position, there is another challenge the workforce is facing: automation is set to take over a high percentage of jobs. Not only 3rd World Countries are at risk of jobs disappearing, 45-60 percent of jobs in the developed world are also endangered [7]. This phenomenon has rekindled the discussion on a ubi.

"It's like the game of Monopoly," said Natalie Foster, Strategic Advisor to The Aspen Institute on a panel at Stanford Center on Poverty and Inequality, explaining the concept of universal basic income. "You get \$200 every time you pass go. And that's because you need cash to play the game of Monopoly." People also need money to play the game of life. [8]

The implementation of a universal basic income could increase the labor supply for jobs with high intrinsic motivation and reduce the labor supply for positions that lack it, such as janitorial work. This would affect wages. In order to make them more attractive, less pleasant jobs would experience a rise in salaries, whereas wages of jobs, that naturally attract people, would fall. The adjustment of wages would further affect workers' motivation, which is directly linked to their performance. The implementation of a basic income scheme would cause this chain of effects, which ultimately would have an effect on people's motivation to work and their perception of leisure. [9]

Assuming the whole world would implement a UBI that would cover citizens' basic needs, a shift in long-held societal views would need to happen. Changing the view that the sole purpose of work is to earn a living, would need to be the main shift. A further perception change is needed to see every human as unconditionally deserving of the basics, rather than only depending on their ability to produce.

What would you do if you no longer needed to work for you to be able to meet your basic needs? Today we are all aware, that if we fail to make ends meet, we would be in trouble. We would need the help of the government, as a last resort, to survive. Imagine the psychological shift in knowing that no matter what happened, you and your loved ones would always have a place to sleep and food on the table without having to give away your time and energy. How would not having to work to survive change your everyday life? Would you spend your time differently?

A UBI model can free up unimaginable amounts of human time, energy, creativity, and passion that have the potential to create value and innovation, and to transform society. Instead of everyone working to subsist, people would have the means to pursue their own dreams and to spend more quality time with their family, friends, and community. Entrepreneurs would have a safety net to fall into, which would encourage them to pursue new ventures. Students would be able to concentrate full-time on their studies. And the opportunity costs of caring for

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children, the sick, and the elderly would be lower. Employers would no longer be able to take advantage of their employees' angst to not be able to make ends meet. Workers could demand a higher quality work experience, tailored for them. More difficult and undervalued jobs would also have to offer higher wages. Jobs would have to be interesting enough to attract workers and offer the opportunity for people to learn and grow. The days of people being exploited by the job market would end. Because people would primarily work doing things they enjoyed, they would be more passionate about their work [10]. A recent survey said that 70 percent of people hate their jobs [11]. These are workers, who would enjoy their lives more, would they be doing something different from what they currently must do. This systemic drudgery takes a toll on our lives in the form of fewer smiles, less laughter, and only a fraction of the joy that might otherwise be possible. This, as a recent study by economists at the University of Warwick have found, leads to workers being less productive [12].

The possibilities that could emerge from the creativity unleashed by more than 7 billion people with the freedom to dream is unimaginable. There would still be so much to do to improve the life on our planet, both for the people and the environment, but we would have the time to do it without having to worry where our next meal would come from.

The universal basic income proposal is far from being mature enough to be implemented. Moreover, controlled studies must be performed to better assess UBI's consequences and the best way to finance it. However, it is my opinion, that a UBI model would fit the current development of the concept of work to an activity we do not to earn a living or to survive, but to produce something to create value and benefit humanity.



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References:

- [1] T. Economist, "Automation and anxiety," 2016. [Online]. Available: <https://www.economist.com/news/special-report/21700758-will-smarter-machines-cause-mass-unemployment-automation-and-anxiety>. [Accessed: 21-Jul-2017].
- [2] Upwork, "Freelancing in America 2016," 2016. [Online]. Available: <https://www.upwork.com/i/freelancing-in-america/2016/>. [Accessed: 02-Jun-2017].
- [3] K. Moore, "Millennials Work For Purpose, Not Paycheck," 2014. [Online]. Available: <https://www.forbes.com/sites/karlmoore/2014/10/02/millennials-work-for-purpose-not-paycheck/#460f9e6c6a51>. [Accessed: 02-Jun-2017].
- [4] Cone Inc. and AMP, "Millennial Cause Study," 2006.
- [5] R. Alsop, "The trophy kids grow up," *How Millenn. Gener. is shaking up*, 2008.
- [6] Medical Futurist, "Artificial Intelligence Will Redesign Healthcare." [Online]. Available: <http://medicalfuturist.com/artificial-intelligence-will-redesign-healthcare/>. [Accessed: 21-Jul-2017].
- [7] N. McCarthy, "Technological Advances Place Old Jobs At Risk," 2014. [Online]. Available: <https://www.statista.com/chart/2566/technological-advances-place-old-jobs-at-risk/>. [Accessed: 02-Jun-2017].
- [8] Stanford Center on Poverty and Inequality, "Panel Discussion - The Future of Jobs and the Question of Basic Income," 2016. [Online]. Available: <https://www.youtube.com/watch?v=AFERVdpmPDc>. [Accessed: 02-Jun-2017].
- [9] W. Pech, "Behavioral Economics and the Basic Income Grant: A Critical Evaluation.," *ournal Basic Income Res.*, 2009.
- [10] G. Ozcelik, "Engagement and Retention of the Millennial Generation in the Workplace through Internal Branding," *Int. J. Bus. Manag.*, vol. 10, no. 3, p. p99, 2015.
- [11] "2017 GLOBAL WORKPLACE Sodexo' s Focus: Quality of Life," 2017.
- [12] A. J. Oswald, E. Proto, and D. Sgroi, "Happiness and Productivity Andrew J. Oswald*, Eugenio Proto**, and Daniel Sgroi** *University of Warwick, UK, and IZA Bonn, Germany **University of Warwick, UK," no. February, 2014.

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IS AUTOMATION NECESSARY TO OFFSET DEMOGRAPHIC SHIFTS?

Ever since the dawn of the first industrial revolution, the debate over the impact of automation has been very heated, from the Luddites in 1811 to John Maynard Keynes' prediction of technological unemployment in the 1930's, to Stephen Hawking, among many, warning against Artificial Intelligence in recent times. Especially the impact of automation on employment is currently a popular topic of discussion in the media and in academics. The picture of what the adoption of automation could do to jobs, as painted by forecasters, is often dire, especially concerning blue-collar jobs. In their frequently cited paper "The future of employment: how susceptible are jobs to computerisation?", Frey and Osborn (2013) estimate that about 47% of all US employment could potentially be susceptible to computerization.

Even if this is the case, the outcome might not be mass technological unemployment as most of the media portrays it to be. Considering the demographic shifts in most industrialized nations, as well as in many emerging economies, increasing automation and productivity could be the crucial factor needed to sustain current levels of economic growth, despite a drastically shrinking work force.

Demographic shifts and economic growth

Generally, economists categorize three factors that contribute to the potential growth of the economy: growth in the size of the labor force, growth of investments in capital and improvements in the efficiency of using these two factors of production, labor and capital. In the second half of the last century, economic growth has been exceptionally high in most parts of the world, with the increasing labor force as a crucial driver. According to UN data (2017), between 1995 and 2011, the working-age population (defined as the population ages 15 to 64) in industrial countries increased by about 50 million (15%), after increasing by roughly 70 million (26%) between 1980 and 1995. However, the same data also shows that in these industrialized countries, the working population has already peaked in 2011 at 388 million and is expected to decline by more than 30 million people by 2030.

As for the growth in productivity, looking at technologies today that would have been unthinkable only decades ago, many people would assume that currently productivity is growing at an all-time high. This, however, is not reflected in the



data economist collect. Quite on the contrary, growth of labor productivity is at a generational low in advanced economies, having decreased from 4% in 1965-75, to about 2% from 1975-2005 and 1% from 2005-2014 (OECD, 2017). This paradox of rampant technological progress and innovation which is not reflected in productivity statistics is difficult to explain. Some experts argue that productivity growth in the 19th and 20th century was so high because we were able to pluck what they call the “low-hanging fruits” of innovation and that today real productivity growth is much harder to achieve (Robert J. Gordon elaborately builds up this argument in his recent critically-acclaimed book “The Rise and Fall of American Growth: The U.S. Standard of Living since the Civil War”, 2016). Others believe that it is more the outdated means by which we measure productivity that cause this paradox. In the end, the current state of this discussion mainly shows us how little we actually understand about the implications of innovation and technological progress on productivity and economic growth.

Nevertheless, research by Manyika et al. (2017) shows that if productivity growth maintains its annual rate of the past half century, the rate of overall economic growth will fall by as much as 40 percent over the next 50 years. To compensate slower employment growth, productivity gains and technological innovation would need to drastically increase – more than 80 percent faster than they have grown over the past century. The growth of GDP per capita, which can be seen as a measure of the standard of living, will also be affected. Without significant productivity growth, aging countries simply would not have enough workers needed to maintain GDP per capita. This could lead to drastic economic and political consequences.

Automation compensating the slowdown of the labor force

Could innovation and the automation of tasks currently performed by humans therefore offset the effects of the demographic shifts taking place in most countries around the world and thus maintain economic growth? Perhaps, but unfortunately it is not that simple. If the studies by the likes of the Oxford Martin School as quoted before are correct with their prediction that in the future about 50% of all current tasks could be automated, this would inherently also be reflected in large overall productivity growth in the economy. However, so far such effects by automation cannot be observed. The overall labor turnover in most advanced economies, i.e. the movement of workers in and out of employment, has been decreasing drastically over the last decades and currently is at a historic low, just as overall unemployment (Autor, 2015). In addition, only because many tasks can be automated does not lead to the absolute replacement of jobs. Many middle-skill jobs will continue to demand a mixture of tasks from across the skill spectrum, many of which will not be able to be automated in the near future.

For me this illustrates that the current discussions in the media are missing some of the most important aspects. For one, rather than regarding the automation of labor as a threat to the economy, it needs to be seen as a necessary tool to fight

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part of the consequences of the inevitable demographic shifts in most parts of the world. Naturally, certain jobs will be destroyed but just as it was impossible to predict the future of work before the last industrial revolutions it is difficult to say what new jobs we will have created in the future. In addition, I also see the debate about labor automation largely orthogonal to discussions about new forms of income distributions that are gaining popularity, such as universal basic income. It is true that if machines were indeed to make human labor superfluous, we would have vast aggregate wealth but a serious challenge in determining who owns it and how to share it. However, as mentioned above, we are still fairly far away from reaching such a state. In the 1960s at the time of a very similar automation anxiety, Herbert Simon, economist, computer scientist, and Nobel laureate, wrote the following passage which I believe still holds true half a century later: "Insofar as they are economic problems at all, the world's problems in this generation and the next are problems of scarcity, not of intolerable abundance. The bogeyman of automation consumes worrying capacity that should be saved for real problems..."

References

- Autor, D. H. (2015). Why Are There Still So Many Jobs? The History and Future of Workplace Automation. *Journal of Economic Perspectives*, 29(3), 3–30. <https://doi.org/10.1257/jep.29.3.3>
- Citi GPS: Global Perspectives & Solutions. (2016). Technology At Work 2.0. Citi GPS.
- Frey, C. B., & Osborne, M. A. (2017). The future of employment: How susceptible are jobs to computerisation? *Technological Forecasting and Social Change*, 114, 254–280. <https://doi.org/10.1016/j.techfore.2016.08.019>
- Gordon, R. J. (Robert J. (2016). The rise and fall of American growth: the U.S. standard of living since the Civil War.
- Manyika, J. (2017). A Future That Works: Automation, Employment, And Productivity.
- OECD. (2017). Multi-factor Productivity. Paris.
- Simon, H. (1966). Automation (a letter in response to "Where Do We Go From Here?" March 17, 1966 issue). *New York Review of Books*.
- UNdata. (2017). UN Labor Force Data. New York, NY: United Nations.

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Jens Thumm

THE IMPACT OF UNIVERSAL BASIC INCOME ON MENTAL HEALTH

The 20th century has seen greater achievements in health for the entire world population than any other time period in history. These achievements became possible due to improvements in education, income, nutrition, hygiene and water supply as well as new knowledge of causes, prevention and treatment of diseases. [1] The overall trend of increasing health is not applicable for mental health, as mental illnesses are increasing. In 2016, German companies registered that the amount of their employees' sick days due to depression had tripled compared to 1996 [2].

In the following it will be explained what mental health is and by which factors it is determined. Out of seven determinants, four will be analysed in more detail to find out whether the introduction of a universal basic income (UBI) can influence them and thereby improve overall mental health. The aim of this essay is to give a basic understanding of the factors that lead to mental illnesses and how UBI can tackle those.

The World Health Organization (WHO) defines health as "(...) a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" [3, p.10]. Thereby mental health is an integral part of health and itself defined as "(...) a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community" [3, p.12]. Mental health is fundamental to our individual ability as human beings to think, emote, interact with each other, work and enjoy life. Mental health and physical health cannot exist alone. They are interdependent which has been demonstrated in studies that analysed the link between depression and vascular disease. [3, p.15] Furthermore studies have shown that in order to maintain good physical health and to recover from physical illness, mental health is of high importance. [4]

Mental health influences all aspects of human life. Its value can be seen in several ways. Mental health is important for the well-being of people. Mental health is a resource for families, communities and nations. Mental health has a positive effect on overall productivity and it has been proven that good mental health positively influences social, human, and economic capital of societies. [3, p.21]

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Having indicated the relevance of mental health, there are numbers that show a negative trend concerning mental health. In 1990 mental illnesses represented 11% of the total disease burden. By 2020 this proportion is predicted to increase to 25%. As a result, costs to the society are increasing tremendously. [3][5]

As the overall health of the world's population increased during the last decades, the burden of mental illnesses has grown. [6]

To analyze how UBI can have a positive impact on mental health it is important to know the determinants of mental health. The level of a person's mental health is determined by various social, psychological, and biological factors. To maintain mental health, security and freedom, provided by civil, political, socio-economic and cultural rights, have to be guaranteed. To be more precise, according to the WHO, the following determinants are associated with poor mental health: Rapid social change, stressful work conditions, gender discrimination, social exclusion, unhealthy lifestyle, risks of violence and physical ill-health. There is no research on which determinants are most relevant. Additionally it has to be mentioned that for each individual there are also specific personality and genetic factors that make people more vulnerable to mental disorders. [7]

The following part discusses how UBI can influence an unhealthy lifestyle, risk of violence, social cohesion and gender discrimination, as relevant determinants to mental health. The main focus is put on social cohesion and gender discrimination.

Unhealthy lifestyle: Research indicates that the more money people have at their free disposal, the more likely they are to live a healthy lifestyle [8]. Therefore, it can be assumed that UBI could have a positive impact on the lifestyle of those currently living below the poverty line. Still it will be a challenge to trigger the change. Also a lot of people could already afford a healthier lifestyle but decide otherwise. UBI would not change their way of life.

Risk of violence: Interestingly, a pilot project in the Otjivero-Omitara area of Namibia showed that introducing UBI led to a decrease in crime rates by almost 50% [9]. This is an indicator that especially for regions where a large share of the population suffers from poverty, UBI can help to decrease crime rates. However, it is to be mentioned that there is still an ongoing discussion whether there is also a positive correlation between poverty and crime rate in developed countries. [9]

Social cohesion: Social cohesion is defined as a society that works towards the wellbeing of all its members and has two constituent elements: Social inclusion and social mobility. The more distinct these elements are, the better the social cohesion. Social inclusion is the process of improving the terms of living and giving power to the poor to let them take part in society. Social mobility is the ability of individuals to move upward or downward in status based on variables such as wealth and education. [10]

With UBI, the wealth of poor individuals can be improved and the opportunity to take part in education increases a lot, as families are not dependent on their children begging for money on the streets anymore. When introducing UBI in the

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pilot project in Namibia, a stronger community spirit developed. In the village where UBI was introduced, it had always been a barrier for regular human interaction that people needed to ask each other for money. Receiving a basic income no one had to beg anymore. Individuals began to do friendly visits and talk to each other without being perceived as wanting something in return. In the pilot project in the Madhya Pradesh area in India where the cast system still creates social divisions, people who were given a basic income started to gather across caste lines for mutual decision-making. Due to being raised in a society where people were more likely to help each other, the children in the village enhanced their conscientiousness and agreeableness, two positive key personality traits. Considering that personality highly influences the perception of stress and the position in social hierarchies, these children will probably end up far better off than their parents before. All in all, it appears that people who do not have to focus on mere survival anymore due to the basic income, reach out to each other more. Thereby social cohesion is improved. [9][10]

Gender discrimination: Overall most of what had been considered “men’s work” in earlier times is paid while what had been considered “women’s work” is not paid. This pattern even holds for today as, despite their increase in paid labor force participation, women get paid less than men. [11]

There are ongoing debates on the benefits and pitfalls of UBI for women and what it means for gender equality. Recently, many basic income advocates argued that UBI has the potential to satisfy the two core principles that have to be fulfilled to achieve gender equality: Anti-marginalization (marginalization: the process of pushing someone to the edge of a group) and anti-androcentrism (androcentrism: the process of putting a masculine point of view in the center of one’s world view and culture). [12][13]

Nancy Fraser, leading researcher in this field, argues against a caregiver parity model in which income support is given to caregivers specifically as this would lead to marginalization. At the same time, she also argues against a universal breadwinner model in which income support is tied to paid employment as this emphasizes masculine life-patterns and requires women to conform to men’s standards to be considered equal. Instead of the caregiver parity model and the breadwinner model, Fraser favors a universal caregiver model because it avoids both extreme outcomes by encouraging and supporting both men and women equally to participate in the labor market as well as to take care of the household. The universal caregiver model promotes gender equity by effectively dismantling the gendered opposition between breadwinning and caregiving. It integrates wage earning, caregiving, community activism, political participation, and involvement in the associational life of civil society. These activities are currently separated from one another. The universal caregiver model aims at eliminating the gender-coding of these activities, and encourages men to perform them too. This world is not likely to come into being in the immediate future, but it is the only imaginable postindustrial world that promises true gender equity. And unless people are guided by this vision now, they will never get any closer to achieving it.



Advocates of the UBI point that it represents a move towards this type of policy model because it provides economic security for everyone, and remains neutral regarding what activities individuals engage in. Thereby UBI avoids drawbacks of the breadwinner model that keeps the masculine point of view. [14] But at the same time, a basic income provides means of valuing caregiving. Something that cannot be provided by state or market. To conclude one can say that UBI would be an important step towards gender equality. However, doing research on what impact UBI can have on gender equality, more attention should be paid to how gender equality is influenced by different cultures and religions.

In this essay it has been shown that mental health is an essential precondition for the overall health status of a human being. As mental health was further defined and analyzed, several factors could be identified that have an influence on mental health such as rapid social change, stressful work conditions, gender discrimination, social exclusion, an unhealthy lifestyle, risks of violence and physical ill-health. Out of these factors, an unhealthy lifestyle, risk of violence, social cohesion and gender discrimination were analyzed in more detail to find out whether the introduction of a basic income could have a positive impact on them and therefore decrease the number of people suffering from mental illness.

While the effect of a basic income on lifestyle is not clear, it was shown that a UBI improves social cohesion and can lead to more security as well as gender equality. This is why it can be assumed that introducing UBI will decrease the number of people suffering from mental health. As an example, during the Canadian "Mincome" experiment the number of hospitalizations due to mental illnesses decreased [15]. However, to get such a positive effect of UBI on mental health, a working infrastructure, such as access to education, medicine and food, is needed.

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BIBLIOGRAPHY



- [1] Center for Disease Control and Prevention. Ten Great Public Health Achievements in the 20th Century. <https://www.cdc.gov/about/history/tengpha.htm> accessed on 2017-06-01. April 2013
- [2] DAK. Arbeitsunfähigkeitstage aufgrund psychischer Erkrankungen in Deutschland. <https://de.statista.com/statistik/daten/studie/254192/umfrage/entwicklung-der-au-tage-aufgrund-psychischer-erkrankungen-nach-geschlecht/> accessed on 2017-06-02. March 2017
- [3] WHO. Promoting Mental Health. http://www.who.int/mental_health/evidence/en/promoting_mhh.pdf accessed on 2017-06-03. July 2004
- [4] McHorney, A. Colleen, J. E. Ware Jr, and A. E. Raczek. The MOS 36-Item Short-Form Health Survey (SF-36): II. Psychometric and clinical tests of validity in measuring physical and mental health constructs. *Medical care*. 247-263. 1993
- [5] J.P. Lépine, and M. Briley. The increasing burden of depression. *Neuropsychiatric Disease and Treatment*. 2011
- [6] Kaptchuk, J. Ted, and D. M. Eisenberg. The persuasive appeal of alternative medicine. *Annals of internal Medicine*. 1061-1065. 1998
- [7] WHO. Mental health: Strengthening our response. <http://www.who.int/mediacentre/factsheets/fs220/en/> accessed on 2017-05-26. April 2016
- [8] E. Zimmerman and S. H. Woolf. How are Income and Wealth linked to Health and Longevity? The Gradient between economic wellbeing and health. April 2015
- [9] Futurism. Evidence Indicates That Universal Basic Income Improves Human Health. <https://futurism.com/evidence-indicates-that-universal-basic-income-improves-human-health/> accessed on 2017-05-24. March 2017
- [10] OECD. Perspectives on Global Development 2012: Social Cohesion in a Shifting World. 2013
- [11] S. Regehr. Basic Income and Gender Equality: Reflections on the Potential for Good Policy in Canada http://www.basicincome.org/bien/pdf/montreal2014/BIEN2014_Regehr.pdf accessed on 2017-05-27. March 2009

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Munich, 15.07.2017

- [12] H.G. Liddell and R. Scott. A Greek-English Lexicon. revised and augmented throughout by Sir Henry Stuart Jones. Oxford: Clarendon Pres. 2014
- [13] Heather Widdows and Caroline Mullen. The Governance of Genetic Information. Who decides? Cambridge University Press 2009
- [14] N. Fraser. After the Family Wage: Gender Equity and the Welfare State', Political Theory 22(4): 591–618. 1994
- [15] E. Forget. The town with no poverty: the health effects of a Canadian guaranteed annual income field experiment. Canadian Public Policy 37(3): 283-305. 2011



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CIRCLES: A THINK-GLOBAL-ACT-LOCAL APPROACH TO UBI

Did you ever try out to put something into a translator application and translated it back and forth until the result is more funny than meaningful? When one tries this with “Universal Basic Income” (UBI) to German and back to English it results in “Unconditional Basic Income”. “Unconditional” is actually a vital part of the entire discussion, otherwise one could conclude that there is already a Universal Basic Income in most countries on earth where the condition is to perform work. “Unconditional” frees people to do work they didn’t manage or dare before without carrying the risk of poverty in the future. “Unconditional” ensures that every member of a society can live in dignity and enables social mobility. But is a truly unconditional basic income even possible?

I’m not talking about financial feasibility here: Most members of discussions about UBI assume that it has to be implemented in a given country, usually their own country, which means in order to get UBI one has to be a citizen of the given state. This is already one condition. However removing this condition also removes any possibility for any organizational structure on earth to implement any form of UBI.

On the other hand side if UBI is not implemented in a given state but inside arbitrary groups inside and across states, which govern and finance themselves, the feasibility of UBI seems much closer.

Big countries with a couple of million inhabitants are facing huge problems if a UBI was implemented: Missing incentives to work is one major concern. More than 14 Million people in Germany worked in 2016 e.g. unsalaried, without traditional money incentives.¹ This comes besides from intrinsic motivation from the merits people obtain from social circles. It is an automatic mechanism of small groups, where everybody knows each other. Where this does not hold true, money has the function of motivating people to do beneficial work for society. A UBI would take away this mechanism for a vast number of jobs.

If UBI would be implemented in a big state nevertheless, one probable outcome is that mistrust forms in society towards citizens who retrieve a monthly payment without work. Such behavior firstly puts pressure on immigration policy makers who now have to regulate the access to free money and eradicates the benefits UBI has in the first place when society punishes the freedom with social stigma.

¹ Statista. 2017. *Anzahl der Personen in Deutschland, die ehrenamtlich tätig sind, von 2012 bis 2016 (in Millionen)*. [ONLINE] Available at: <https://de.statista.com/statistik/daten/studie/173632/umfrage/verbreitung-ehrenamtlicher-arbeit/>. [Accessed 20 July 2017].

CIRCLES is concept by Martin Köppelmann, a IT systems engineer and blockchain expert, attempting to prevent that. It solves the inherent trust issues inside a given society by assuming at first that nobody trusts anyone in the system. In a second step users can explicitly trust others and accept their basic income as a valid currency. By making trust relationships transitive, clusters of communities can form which effectively implemented a UBI in their circle. These circles can be bound by geographic location, common interests, common values or a combination of those. In order for it to have an effect in the real world participants should ideally offer real good in exchange for the respective currency. This is also where the trust concept helps to stabilize the system: Trust to participants who do not offer their resources in exchange for currency or are overly consuming can be revoked or never granted in the first place.²

The following 12 rules describe the system which had been published in 2015 on a dedicated blog for the topic:

1. ““Everyone can create a new account””²
2. “An account will constantly generate an income (1000 units per week)”²
3. “The rate at which the income is generated will increase by $g=5\%$ per year”²
4. “A new account starts with the income that will be generated in the next 3 months”²
5. “One month of income is for the account owner – the other two are reserved for people who trust this account, it is called the trustee reward.”²
6. “Accounts can trust one another. This will allow both accounts holders to exchange their units 1:1.”²
7. “Trust can be revoked by both parties.”²
8. “If an account trusts another account it is credited with half of the remaining trustee reward.”²
9. “Arbitrary groups can be created.”²
10. “Groups can verify accounts as members.”²
11. “Groups can exclude accounts as members.”²
12. “All members can convert their private money into group money (1:1 exchange rate). This exchange is irreversible.”²

By solving one of the biggest issues of UBI, CIRCLES introduces new issues at the same time: Double receivers are hard to detect, especially if such a system is implemented on the blockchain. This responsibility of revoking trust of fake accounts is deferred to the individual groups.

Secondly if revoking trust is an easy task, the stability a government can provide and which is crucial to successful UBI, where nobody has short term incentives suffers. Other mechanism, such as contracts or insurances, could potentially solve this.

² Martin Köppelmann. 2015. *CIRCLES*. [ONLINE] Available at: <https://ourbasicincome.wordpress.com/>. [Accessed 21 July 2017].

Furthermore one possible scenario in CIRCLES would be the formation of elites with high income and high payouts and poor groups with almost no payout. Increasing inequality would be the result.

CIRCLES provides a new approach to answering the "Who?" question in the UBI discussion, which is asked very rarely. Too rarely maybe. It shows that there really is always a condition attached to income. By thinking and discussing about which condition we want to attach to the Universal Basic Income the conversations centering this topic can lead into the conclusion that there are not only pro and contra sides, it is much more a spectrum of ideas which shape the future of our society.



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CENTER STUDY – UNIVERSAL BASIC INCOME

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WHY THE EUROPEAN ANSWER TO AUTOMATION IS UPSKILLING AND NOT A UNIVERSAL BASIC INCOME

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When it comes to the future of employment, there is a growing consensus that automation is set to play a major role. According to the predictions of numerous academics, the nature of the changes is so fundamental that policy measures are required to avoid unemployment and hold our society together (Frey and Osborne, 2013; Grace et al., 2017; Griffiths et al., 2017). In particular one concept has entered the public lexicon as the go-to solution for the changes Artificial Intelligence (AI) brings to the world: Universal Basic Income (UBI). Despite the popularity, the connection between Automation and UBI is significantly more complex than the public lexicon might suggest.¹ Until today, there is no scientific study coherently linking the two concepts. And the fit between the challenges evolving through AI on the one hand and the impact a UBI has on the other hand is highly speculative. The public debate also omits to differ between the starting points in Europe and the US, of which the latter currently has no social security system. Germany, in contrast, has not only a social security system, but also a basic income via negative income taxes.² Lastly, alternatives and complementary concepts - such as a consequent upskilling of citizens - are rarely considered. This seems enough reason to unglorify the concept and look for alternatives.

The lack of scientific work leaves behind a superficial debate about the impact of automation.

Although the two concepts are discussed side-by-side in US-centered media, there is until today no scientific publication that asks for a UBI as a consequence of progressing automation. While an increasing number of studies focuses on the technological

¹ Clarification: Automation is one of the arguments that supporters of a UBI use to claim the necessity of the concept in the future. Additionally, UBI is one option in a subset of measures, that could potentially play an important role to cope with the effects of Automation. The latter relation is the focus of this essay, as it is dominant in the public debate.

² A negative income tax (NIT) is a progressive income tax system where people earning below a certain amount receive supplemental pay from the government instead of paying taxes to the government. Negative income taxes are a form of a basic income that is bound to the condition that the person is working or willing to work.

progress made in the field of AI (Grace et al., 2017; Griffiths et al., 2017), only a few studies go further and derive the impact of automatization on the employment market (Frey and Osborne, 2013; Arntz et al., 2016). These studies unite the goal to determine when, how fast and to what extent software is able to replace jobs that are currently operated by humans. The outcome is typically a percentage of potentially replaced jobs in the future ranging from 35% to 47%.³ Also, the concept of a UBI has been widely discussed, mainly from a humanistic (Eichhorn et al., 2012) and economic perspective (Charles, 1996; Habermacher and Kirchgässner, 2016). Within the last years, several experiments were started to gain a better understanding of a person's behavior when receiving a UBI.⁴ But even supporters of a UBI, such as the Basic Income Earth Network (BIEN) criticize the design of studies like the one in Finland because the experiment is according to BIEN, "...badly managed and the government's commitment is half-hearted. The narrow focus on reducing unemployment and increasing workforce incentives is unfortunate" (Lehto, 2017). Despite the numerous studies about both concepts, a UBI has not yet been connected to the impact of technological development leading to an oftentimes unfounded debate not only in media but also between politicians, entrepreneurs and corporate decision-makers.

Automation and the aging population are the dominating effects on labor markets in Europe.

Before looking at the effects of automation, we need to understand the current developments in labor markets. The predictions for labor supply - so people who provide labor - are alarming: assuming the same GDP growth rate for the future as for recent years, Germany will see a shortage of up to 10 million workers in 2030, driven by demographic changes (BCG Perspectives: The Global Workforce Crisis, 2017). France, Italy, the Netherlands, Poland, Spain – in all these countries the retirement of the baby boomers leads to a shrinking workforce over the next decade, causing severe labor shortages. This European problem accelerates, when looking at the global workforce in 2030. Most of the larger economies, including China with its one-child policy, Japan, Brazil, Russia and Australia will all face labor shortfalls as a consequence of a rapidly aging population (BCG Perspectives: The Global Workforce Crisis, 2017). To close the gap, these countries need to significantly increase immigration, get more women in the workforce and increase the retirement age. Particularly interesting is migration as the global workforce is increasingly open to move to a new country. This simplifies the match between labor supply and demand, but also increases the intensity of competition for qualified labor.

So how come that one never reads about labor supply shortage in media articles? – Because the US is one of the very few countries in which labor supply will exceed demand for the next 20 years. And since the US is ranked first when it comes to the countries foreigners want to migrate to, this surplus is sustainable (BCG Perspectives:

³ While the study from Frey and Osborne points out 47% for the US, PriceWaterhouseCoopers suggests 35% for the UK (PWC – Will Robots Steal our Jobs? (2017))

⁴ Current experiments run in Finland, Canada, Alaska, India and Namibia. Each of the experiments has a different design. As the number of experiments grows, the following website is helpful to get an up-to-date overview: <https://futurism.com/images/universal-basic-income-ubi-pilot-programs-around-the-world/>

The Global Workforce Crisis, 2017). For the US, this means today's relatively high unemployment will continue until the workforce is better utilized. A key driver of the underutilization is the already existing mismatch between the educational qualifications of graduates and labor force needs. In contrast, what Europe and most countries need, are more (qualified) workers to avoid stagnation.

Now, despite the lack of scientific proof, we know that technology will replace a lot of jobs and therefore accordingly change the demand for labor. As the widely noted Oxford-study showed, automation will first and foremost replace middle income jobs, which typically have a high level of manual and cognitive routine tasks (such as a cashier). But we will also see a lot of new types of jobs (such as a robot-cleaner). And while there is high uncertainty about the number of jobs automation creates, it is safe to say that the required skill-set differs from the one before (Frey and Osborne, 2013). As an effect, the workforce bifurcates into two groups doing non-routine work: highly paid, skilled workers (such as managers and architects) and low-paid, unskilled workers (such as cleaners and burger flippers). Numbers from the Federal Reserve Bank show for the US, that the employment in non-routine cognitive and non-routine manual jobs has been growing steadily over the last years while the employment in routine jobs was flat (Economist: Automation and Anxiety, 2016). This trend seems likely to continue as more jobs are automated.

Europe faces a labor shortage and skill mismatch between available workers and market needs.

In short, a decrease of the average number of available jobs due to automation is not a threat for Europe. Not only is it very unclear if automation reduces the number of jobs at all – historically, technology always ended up creating more jobs than it destroyed –, but if it does, the effect on labor market smoothens since demographic developments already reduced labor supply. The real issue unfolds when looking at the impact of both demographic changes and automation on different skill levels. Because on top of the overall labor shortage, Europe also faces a big mismatch since the demand for highly-skilled workers is increasing much stronger than the one for low-skilled workers (BCG Perspectives: The Global Workforce Crisis, 2017). The real thread for Europe is therefore the significant misalignment of skill-sets between available workers and market needs. If workers will not have the skills that employers need, chances of higher unemployment rates increase, potentially causing stagnation in European economies. To close the skill gap, policy-measures are required to first, effectively manage the transition-phase, second, massively upskill existing workers and younger generations and third, transform education and training methodologies to create skill-sets that are adaptable to constantly shifting requirements.

Labor market disruption calls firstly for stronger safety nets to cope with the transition.

In short term, measures to cope with the rapidly increasing gap between the skill-sets of workers and the needs of employers are needed. This calls for a stronger safety net to protect people from the market disruption. People not only need financial support

when switching to a new employer, they also need financial and emotional support to retrain and relocate. For the US and Europe, a different set of measures is effective, despite the fact that automation has a similar effect in both regions. The US urgently needs a social security system to avoid social instability during the transition phase. As mentioned before, the US not only has to cope with a skill mismatch but also with general unemployment due to a labor supply surplus. And since the transition is already happening, the introduction of a EU-like welfare state in the US would take too much time in addition to being costly and bureaucratic. For the US, a UBI seems to be a simple way to avoid social instability. In Europe in contrast, a social security system is already in place in form of the welfare state.⁵ But the existing system will not be sufficient to cope with the requirements of the transition. People need access and financial support to education, training and mentoring to add new capabilities. One way could be a governmental support for a vocational education system (comparable to universities and internship programs) for professionals to have a certain learning period before entering a new job.

Supporting large-scale upskilling initiatives is more effective than introducing a UBI.

The introduction of a UBI cannot be considered as an alternative for several reasons: First, it is not a logical response to the demographic and technological changes Europe faces, as the core of the problem is the skill-level of workers and not the number of available jobs. Second, an unconditional basic income is not compatible with open borders in the EU and would cause social instability. Without restrictions on immigration or entitlement it might attract lots of freeloaders from abroad and cause domestic taxpayers to flee. And third, introducing a basic income without conditions means missing the chance to steer the skill-set of workers into the right direction to help the threatened economy.

Governments and companies need to massively invest into new educational programs.

In addition to the extension of the short-term safety net, government and companies are forced to massively invest in education, innovation and infrastructure to help people learn new subjects, methodologies and job skills. Programs need to be particularly tailored to people with routine jobs, women entering the workforce, migrants and retired workers reentering the workforce. Universities need to open up for people in the middle and end of their career and employers should actively support further education of workers. In the long-term, as knowledge becomes obsolete more quickly through AI, the most important thing will be learning to relearn, rather than learning how to do one thing very well, following the Humboldtian model of higher education. This also means that learning opportunities need to be interwoven with full-time work and tailored to the needs of the market. A stellar example is *Udacity*, a startup offering vocational courses for professionals in form of online-courses that are jointly designed from companies and universities. Most of the current users do the

⁵ Although each European country has its own singularities, one can distinguish between four different welfare or social models in Europe: The Nordic Model, The Continental Model, The Anglo-Saxon-Model, and the Mediterranean Model. All four models are generally characterized by commitment to full employment, social protection, social inclusion and democracy (Boeri, 2002).

course in parallel to a fulltime job and finish the course (Computer Science is the most popular one) with a nanodegree. The startup, not surprisingly founded by an AI-professor, also matches its graduates with potential employers, mostly with the ones that initially helped to design the course.

Europe needs startups and initiatives like *Udacity* to cope with the challenges. Therefore, entrepreneurs, corporate decision-makers and government officials need to start raising awareness to get people working on one of the biggest societal challenges of our time. And politicians need to understand and state that a UBI is not a policy option for Europe. The real questions are: How can we better upskill the current generation? And, how can we adapt the educational system for upcoming generations? The path is clear, let's walk the talk, for Europe.

References

Arntz, M., Gregory, T., & Zierahn, U. (2016). The Risk of Automation for Jobs in OECD Countries: A Comparative Analysis. *OECD Social, Employment and Migration Working Papers*, 2(189), 47–54. <http://doi.org/10.1787/5jlz9h56dvq7-en>

Berriman, R., & Hawksworth, J. (2017). Will robots steal our jobs? The potential impact of automation. *Pwc*, (March), 30–48.

Boeri, T. (2002). Let social policy models compete and Europe will win. A Conference Hosted by the Kennedy School of Retrieved from <http://scholar.google.com/scholar?hl=en&btnG=Search&q=intitle:Let+Social+Policy+Models+Compete+and+Europe+Will+Win#0>

Bruening, M., & Jauhiainen, A., & Mäkinen J. (2017). The UBI Bait and Switch. Retrieved from <https://www.jacobinmag.com/2017/01/ubi-finland-centre-party-unemployment-jobs/>

Charles, M. A. (1996). Basic income, inequality, and unemployment: Rethinking the linkage between work and welfare.

Economist. (2016). Re-educating Rita – Artificial intelligence will have implications for policymakers in education, welfare and geopolitics. Retrieved from <http://www.economist.com/news/special-report/21700760-artificial-intelligence-will-have-implications-policymakers-education-welfare-and>

Economist. (2016). Automation and Anxiety – Will smarter machines cause mass unemployment? Retrieved from <http://www.economist.com/news/special-report/21700758-will-smarter-machines-cause-mass-unemployment-automation-and-anxiety>

- Frey, C. B., & Osborne, M. A. (2013). The Future of Employment on Technology and Employment: how susceptible are jobs to computerization?
- Grace, K., Salvatier, J., Dafoe, A., Zhang, B., & Evans, O. (2017). When will AI exceed human performance? Evidence from AI experts. Unpublished Manuscript2, 1–21.
- Griffiths, T. (2017) A Conversation with Tom Griffiths. Retrieved from <http://aiimpacts.org/wp-content/uploads/2016/09/AConversationwithTomGriffithsFinal.pdf>
- Habermacher, F., & Kirchgässner, G. (2016). Das garantierte Grundeinkommen: Eine (leider) nicht bezahlbare Idee. Retrieved from <http://www.oekonomenstimme.org/artikel/2013/04/das-garantierte-grundeinkommen-eine-leider-nicht-bezahlbare-idee/>
- Hyde, P. C., Harris, M., Cole, E. L., & Bayless, J. (2001). Technology at work. *World Oil* (Vol. 222). <http://doi.org/10.1016/B978-0-323-04130-0.50004-2>
- Jun, B., & Quaqu, W. (2016). Sighing for paradise to come. *The Economist*, (December 2015), 1–12. <http://doi.org/10.1108/17506200710779521>
- Lehto, O. (2017). Comments on Jacobin's "The UBI Bait and Switch". Retrieved from <http://basicincome.org/news/2017/01/comments-on-jacobins/>
- Santens, S. (2017). Why we should all have a basic income. *World Economic Forum*, 1–10. Retrieved from <https://www.weforum.org/agenda/2017/01/why-we-should-all-have-a-basic-income/>
- Strack, R., Baier, J., Marchingo, M., & Sharda, S. (2014). The global workforce crisis, 29.
- Werner, G. W., Eichhorn, W., & Friedrich, L. (2012). Das Grundeinkommen.

CENTER STUDY – UNIVERSAL BASIC INCOME

Marius Wiggert

A COMPARISON OF THE WORLDVIEW OF CAPITALIST AND UNIVERSAL BASIC INCOME SOCIETIES

The concept of worldview can be defined as the framework of ideas and beliefs that lead to an interpretation of the world, the role of society and the individual in it. There is a consensus among sociologists that the structure of the economy influences the social structure and the worldviews of its members. I believe that in its essence, the debate about universal basic income (UBI) is not about poverty alleviation or reaction to increasing levels of automation, but about two different worldviews. For that reason, this essay aims to contrast the two opposing worldviews that underlie a purely capitalist society and a society with a UBI.

The economic sociologist Karl Polanyi notes that the structure of a purely capitalistic "market economy—[...] gave rise to yet another, even more, extreme development, namely as a whole society embedded in the mechanism of its own economy—a market society."¹ The culture and worldview of such a capitalistic market society are characterized by selfishness, a fixation on private property, commodity fetishism as well as consumerism and greed². Throughout this essay, some of these and additional characteristics of the worldview of purely capitalist societies are elaborated and contrasted with the value framework of a society providing everyone with a UBI.

A selfish human nature is a core assumption of Adam Smith, the father of capitalism. Based on this he argued for a capitalist economic system in which the individual, by pursuing his own interest, promotes the public good without intending or knowing it³. This reveals the underlying capitalistic belief that humans must be motivated by their own interest to work and thereby provide value

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¹ Karl Polanyi, *The Livelihood of Man* (New York: Academic Press, 1977, posthumously published from essays written between 1954 and 1964), 9.

² Compare Cunningham, Frank. "Market economies and market societies." *Journal of social philosophy* 36.2 (2005): 129-142.

³ Compare Adam Smith, *The Wealth Of Nations*, Book IV, Chapter II

to others. This idea additionally set the seed for the dominant view in capitalist societies, that work is unpleasant, not a goal in itself and only instrumental in providing us with money to satisfy our own needs. This mental framework leads to the imperative to work to earn one's means of subsistence. Karl Marx criticizes this extreme dependency of individuals on their salary as wage slavery, especially if it is total and immediate⁴.

The proponents of a UBI do not deny the selfish part of human nature, however, they emphasize the intrinsic values of work such as joy through mastery, social recognition, and the possibility to contribute to society as main motivators⁵. In their worldview, people are by nature intrinsically motivated to work, if their activity realizes these intrinsic values of work. Their concept of work is work as a goal in itself that puts the human in the focus and not its instrumentalisation for the service to others. Proponents argue that a UBI would provide recognition to the dignity of every human being and thereby would help overcome pure selfishness as a sign of solidarity among all members of a society⁶.

Another core idea in the value framework of a capitalist society is the fixation on property, meaning that the social worth, and by that also the self-worth of an individual, is related to the amount of his private property. This idea can be traced back to the Protestant work ethic introduced by Max Weber. He argues that the moral value of an individual is manifested in hard work, discipline and economic success as this implements the Christian ideal of loving one's neighbour better than piety and altruism⁷. This idea that economic success is related to the moral value of an individual, shaped the capitalist perspective on poor and workless people. Within this mind-set, the poor are not even considered worthy of charity but immoral. Taken to the extreme, this reveals the belief that a human being becomes valuable only through work and private property. This belief can also be seen in many societies in the general correlation between the wages for a certain job and its social status, e.g. the social status of a nurse is perceived lower than that of a high earning CEO.

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⁴ Compare Marx, Karl. "Das Kapital: Kritik der politischen Ökonomie." *Verlag von Otto Meisner, Germany* 1885 (1867): 1894.

⁵ Compare Gheaus, Anca, and Lisa Herzog. "The Goods of Work (Other Than Money!)." (2016).

⁶ Compare Global Basic Income: Definition and Arguments published by the Global Basic Income Foundation, n.d. Web. 08.June 2017. <http://www.globalincome.org/English/Global-Basic-Income.html>

⁷ Compare Weber, Max. *Die protestantische Ethik und der Geist des Kapitalismus*. BoD–Books on Demand, 2011.

In a society providing everyone with a UBI, the worldview is precisely the contrary, every human is considered valuable *eo ipso*, independent of his private property. This also implies that the social status of a certain activity is not linked to the salary, which re-evaluates the social value of unpaid or low-paid activities such as raising children, volunteering, and care of the elderly.

In a purely capitalistic state, the role of government is reduced to ensure and enforce the rights of the individual, including the right to life, freedom, private property and the pursuit of happiness. The capitalist philosopher Any Rand argues that individual rights do not include any entitlement to things such as money or shelter, but only an absolute right on the omission of the negative, such as theft or murder⁸. This worldview manifests in the system of the United States of America with the absence of an adequate social security system. In contrast to that, the proponents of a UBI argue that citizens are entitled to a basic income that provides them with the means of subsistence. There are multiple philosophical argumentations that establish this right to the means of subsistence. The political philosopher Thomas Paine argued in the 18th century, that when every human has a right to use common natural resources (e.g. by farming, fishing etc.) and this right is violated by societies through the introduction and enforcement of property laws, then every human has an unconditional right to compensation. The Nobel laureate Herbert Simon grounded his argumentation for a UBI in the fact that every economic output depends largely on social capital such as scientific knowledge and an institutionalised legal framework⁹. As this social capital must be regarded as jointly owned, each member has a right to the prosperity it creates. Summarized, in a society with a UBI there is an individual right to the means of subsistence that should be ensured by the government.

A foundation of modern liberal thought that underlies capitalism is the idea elaborated by John Locke that each man has the right to the full product of his labour¹⁰. This leads to the worldview in capitalist societies, that a wealthier person *earned* his wealth as it is the product of his labour. This belief was criticised by Karl Marx as he argues that in capitalism the owners of the means of production exploit their workers by appropriating their surplus labour.

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⁸ Compare Rand, Ayn, et al. *Capitalism: The unknown ideal*. Penguin, 1986.

⁹ Compare King, John E., and John Marangos. "Two arguments for basic income: Thomas Paine (1737-1809) and Thomas Spence (1750-1814)." *History of Economic Ideas* (2006): 55-71.

¹⁰ Compare Locke, John. "Treatise of civil government and a letter concerning toleration." (1965).



While the value framework of a UBI is still committed to an individual right to the product of ones' labour, it acknowledges that a major part of the value of that product is based on natural resources and social capital (as explained in the previous paragraph). In the worldview of a UBI society, these natural resources and social capital are jointly owned and their contribution to the product should be equally distributed among all members, through a UBI.

The last central element to the opposing worldviews discussed in this essay is their specific interpretation of liberty. The typical capitalistic interpretation of liberalism includes among others the individual right to voluntary exchange of goods, services, and labour in a free market. This means that the individual can choose *what* to work based on the opportunities available to him.

In the worldview of UBI proponents, liberalism is interpreted wider and additionally includes the right to freely choose one's activity. This means in contrast to the capitalist liberalism that the individual can not only choose *what* to work but also *if* to pursue paid work or not.

This essay presented in detail the differences between the worldviews that underlie a purely capitalistic society and a society with a UBI. The core differences can relate to the assumptions about human nature and the motivation to work, the social worth of a human being through work and eo ipso, the role of the government, the ownership of the product of ones' work and their specific interpretations of freedom. Through the elaboration of these points, I grounded my claim, that in its essence the debate about a UBI is about two different worldviews rather than about a reaction to the developments in automation and a measure to alleviate poverty.

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CAN OPEN SOURCE SOFTWARE PROVIDE INSIGHTS INTO HOW UNIVERSAL BASIC INCOME WILL EVOLVE?

Universal Basic Income (UBI) defines a payment to each individual of the society which is unconditional and covers the basic expenses. UBI was already mentioned in the book Utopia by the humanist Saint Thomas More in 1516 [1]. Thereafter it has been discussed many times in history. Because of recent technologic developments like Digitalization and Artificial Intelligence, these thoughts especially gained interest among the technology community. [2] In Germany one of the influencers is Götz Werner, founder of dm-drogerie and professor at the Karlsruhe Institute of Technology. There are many influencing factors of UBI. Financing of UBI and possible changes in society are broadly discussed topics. [3, 4]. In this essay I want to discuss the societal changes of UBI. When everybody receives a UBI, some might say there wouldn't be the need for anyone to work in order to pay for his or her food or to pay for rent [5]. While thinking about how this will affect our community, I came across the Open Source Software Development Community where people work together without getting paid for their work.

In 1983 the Free Software Movement started with the initial idea to publish source code for other developers [6]. This initiative has been renamed into the widely known Open Source Software (OSS) in 1998 [6]. The thought is that open source software projects are published by individuals and enable others to use the code and contribute to it. Nowadays, many free and commercial products are available using open source software. There are around 500.000 Open Source Projects, used by around 100 million developers and actively developed by an estimated 1 million individual developers [8]. While all developers participate voluntarily, they have different motivations e.g. providing their solution for a problem to a broader audience, being employed at a company working on open source projects, individuals contributing for an open source company [7]. The publication of individual software has become a wide movement and improved software development significantly [8]. This essay will further discuss why aspects of the OSS community may give an idea of how society would evolve and behave with a UBI.

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At first, I want to have a look at the members of the communities. Members of the OSS community are software developers, who have a higher aim to contribute work to the community, which will be argued below. In general software developers have a higher income than the average income of the society. In regards to Maslow's hierarchy of needs [9], their income ensures the basic needs and enables them to pursue activities of self-actualization and self-fulfillment. In the whole society there are many people who yet do not have enough income to think about self-fulfillment because they struggle to cover their basic needs. Even though UBI will ensure income for their basic needs, it is not sure whether they will eagerly contribute something to the community or entirely focus on optimizing their own life.

It can be argued, that current members of the OSS community earn their income through their main job, which is still different to a UBI society. For UBI, the income is unconditional and paid to everyone. The difference for the OSS community nowadays is, that these developers only receive an income if they have a paid job. Their additional activities for OSS are therefore on top and do not rely on any payment. While it is hard to say how much the contribution will increase by providing a UBI, it is clear that the OSS community would be even more active if the members would have the chance to completely focus on their OSS projects.

In OSS, only a minority of all software developers participate. If in the community of UBI, only a fraction would be working this won't keep the community running [4]. The worldwide count of software developers is 18.5 million [11], while the members actively contributing to OSS are estimated to be 1 million [8] which is a fraction of 5,4%. Providing UBI, it can be expected, that some members of the society will stop working. The society will not work if too many people will stop working and through that stop to generate a benefit for the society. In OSS, software developers work on these OSS projects in addition to their regular jobs. Therefore, it can be expected that the amount of contribution will rise by starting UBI as they have more time to do so. In addition, current software developers which are not contributing to any OSS project yet, might contribute to other societal activities. By ensuring the UBI for every member of the community, there will be more social engagement, as software developers currently do already.

In the OSS community, collective labor provides collective benefits. In software projects, coding, testing and valuation has to be done individually and still does not ensure a complete functionality of complex programs. In OSS, all members of the community can read the code, run it and test it. By this a lot of security issues have been found [12]. This approach to make things better because they are used by many people does not only hold for software, but also for other applications like building a house, educating people or acting in an emergency. In general, for a community something does not get worse by sharing. But for selective members of the community this might causes a reduction of their own profits (e.g. patents).

The OSS community is very vivid and innovative to develop new solutions because the community is not influenced by individual stakeholders but by the ideas of a

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motivated community. Everyone can simply contribute to the projects he or she is interested. This naturally guarantees that nobody works on a project forced by a third person with the potential to be unhappy about the working situation. Since the UBI would cover the basic needs, it is not required to take a job you don't like just for your own survival. On the other hand, like in OSS this will improve the quality of the work which is done because it has been done by someone who likes to do that kind of work.

To conclude, it is clear to point out that the motivation to work has not to be done through payments. Payments are currently mainly used to motivate employees to work because they have the need to pay their basic needs such as food and rent. Under the assumption of UBI, the basic needs are covered by this income which can change the motivation for work. As in the OSS community, people are not working for monetary incentives, but because they aim for self-fulfillment and use their skills to do something which they think is useful. Many examples show that by this motivation to work, great products can be invented which are for the best of society. The community of OSS cannot be used as a sample on how many people will participate in things beneficial for the society by using UBI. But OSS clearly indicates that by letting someone use his time to pursue something he or she is passionate about will improve the results of the overall work. Finally, this can help to tackle the big problems we have on earth jointly for the best of all.

References

- [1] Thomas More, *Utopia* (1st Latin edition, Louvain, 1516), English translation by Paul Turner, Harmondsworth: Penguin Classics, 1963, p. 43-44
- [2] Peter Diamandis. 2013. If Robots and AI Steal Our Jobs, a Universal Basic Income Could Help; [cited 2017 June 2]. Available from: <https://singularityhub.com/2016/12/13/if-robots-steal-our-jobs-a-universal-basic-income-could-help/>
- [3] Florian Habermacher et al. 2016. Aurora Energy Research, Oxford, und Universität St. Gallen. Das bedingungslose Grundeinkommen: Eine (leider) nicht bezahlbare Idee.
- [4] Kate McFarland. 2017. Psychologists for Social Change: "Universal Basic Income: A Psychological Impact Assessment"; [cited 2017 June 2]. Available from: <http://basicincome.org/news/2017/04/psychologists-social-change-universal-basic-income-psychological-impact-assessment/>
- [5] The Dangers Of A "Universal Basic Income". 2017. Tyler Durden; [cited 2017 June 2]. Available from: <http://www.zerohedge.com/news/2017-01-17/dangers-universal-basic-income>
- [6] Free Software Foundation. 2015. The GNU Manifesto; [cited 2017 June 2]. Available from: <https://www.gnu.org/gnu/manifesto.en.html>
- [7] Jin Xu et al. 2003. University of Notre Dame. Exploration of the Open Source Software Community.
- [8] Mårten Mickos. 2016. Open source CEO. How many people in the world actively participate in open source software projects?; [cited 2017 June 2]. Available from: <https://www.quora.com/How-many-people-in-the-world-actively-participate-in-open-source-software-projects>



- [9] GBdirect Ltd. - .Benefits of Using Open Source Software; [cited 2017 June 2]. Available from: <http://open-source.gbdirect.co.uk/migration/benefit.html>
- [10] Neel Burton. 2012. Our Hierarchy of Needs, Why true freedom is a luxury of the mind; [cited 2017 June 2]. Available from: <https://www.psychologytoday.com/blog/hide-and-seek/201205/our-hierarchy-needs>
- [11] Steve Ranger. 2013. There are 18.5 million software developers in the world – but which country has the most? The shift to the cloud is likely to favour developers over other types of tech workers, according to research; [cited 2017 June 2]. Available from: <http://www.techrepublic.com/blog/european-technology/there-are-185-million-software-developers-in-the-world-but-which-country-has-the-most/>
- [12] Synopsys. 2014. The Heartbleed Bug; [cited 2017 June 2]. Available from: <http://heartbleed.com/>

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Maximilian Wühr

UNIVERSAL BASIC INCOME, OR WILL WE HAVE TO CLOSE OUR CIVIC STATE TO OUTSIDERS?

Universal Basic Income¹ appeals to proponents from a wide range of ideologies. From libertarians, who want to increase individual human freedom and reduce state interventions of an inefficient, overly bureaucratic state to egalitarians who think it is the way to a just society and a possible road to communism with capitalist rights. Few, who share a globalist, cosmopolitan, humanitarian moral vision, disagree with the concept of UBI *per se*. For the purposes of this essay, I will take for granted that in a wealthy society with established political, social, and economic institutions, a moral case for UBI can be made². However, if one additionally agrees on the ideals of open borders, advancing trade and allowing immigration, UBI is significantly more controversial from a moral standpoint.

Differentiating by citizenship

Proponents of UBI agree that a basic income would almost certainly increase immigration – if it is allowed by the government. In the literature, the simplest argument is labelled the “welfare magnet problem”, citing economic prospects as a major motivation of migrants (Anthony & Thurston, 1976). One approach to tackling this is to restrict UBI to the country’s citizens. But even if immigrants are not eligible for a basic income³, some would nonetheless see great economic opportunity in migrating to a country that is rich enough to hand out money to all its citizens. Haug (2000) has argued, that immigrants have strong preferences for UBI, even if only their children are going to be eligible. Although they do not receive the benefits immediately or say, within the next decade, the prospect of future prosperity (including the prosperity of their children) is an extremely strong incentive.

Under the condition of UBI, citizens are able to reject offers for undesirable and dangerous jobs (farm work, cleaning, waste disposal, etc.) (see Gorz, 2013). Hence, jobs not substitutable for automation will increase in wage. Consequently, societies may look for immigrants to do the unattractive work, as they have done

¹ In the following essay, I will continue to use “UBI” as an abbreviation of “Universal Basic income”, an unconditional, significant transfer from the state to its citizens.

² An overview of arguments can be found in Van Parijs (1992).

³ On the level of the European Union, the freedom of mobility rules forbid to discriminate welfare spending against non-citizen European residents. Therefore, a single member state cannot implement UBI on its own.



in the past (Orrenius & Zavodny, 2009). Higher wages for immigrants, in turn, will increase migration from less well-off countries. Additionally, attractive work will yield lower wages, as citizens have means of subsistence and do not necessarily need a living wage, thus leading to fiercer competition for attractive jobs (as argued by Howard, 2006). This will create a group of second-class workers not eligible for UBI with less freedom of choice. Because wages in the attractive sector will not be sufficient to make a living wage, UBI will create an artificial segregation on the labor market – with migrants taking up only the dangerous and unattractive jobs. It is hard to make a moral case for such a system: It is nothing but mere luck, after all, whether citizens are born into a country with UBI in place.

In such a setting, non-citizens will not only be discriminated against on the job market, but the source of financing for UBI will increase financial stress on non-citizen permanent residents, as they are affected by income and consumption taxes – they would have to contribute to funding UBI. Expanding one's freedom on the backs of the least off in society with a two-tiered labor market seems unjustifiable in a Rawlsian worldview.

Of course, a state can limit the implications of UBI on immigration through more restrictive immigration policy (including border enforcement). This would be costly and severely limit the openness of Western liberal societies. Advancing open borders, international cooperation, and global trade have been the hallmarks of the "Washington consensus". These policies have been at the roots of the attractiveness of the liberal order. A significant shift in immigration policy towards a less open order would have devastating economic consequences, as most demographically stagnating Western societies look to immigrants for economic stimulation and growth.

Implications for attitudes towards immigration

As I have argued above, a single country implementing a UBI will either face increased immigration or have to impose strong barriers for outsiders. Bay and Pedersen (2006, p. 1), conducting a persuasion experiment in Norway, show that negative attitudes towards immigration "can be mobilized to significantly reduce the scope of support for a basic income proposal among the Norwegian electorate". In the end, therefore, UBI may prove to be unsustainable without strong barriers of immigration and severe restrictions on UBI for non-citizens. In another context, Finseraas (2008) has shown, that high welfare spending is associated with resentment towards immigrants. Indeed, political extremist parties on the left and right have enjoyed an astonishing rise during the last decade profiting from resentment against immigrants. Their political capital may increase even further in nations implementing UBI. In the end, extremist, anti-immigration parties' rise to power may implement barriers to immigration or undo the unconditional transfer as Bay and Pedersen (2006) suggest.

In such a way, UBI may endanger the liberal policies of open borders and free trade which have generated significant wealth across the globe – especially for developing countries (Wilson, Mann, & Otsuki, 2005). Policy makers face a difficult choice: Does Universal Basic Income justify the tightening of borders and limiting immigration?

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References

- Anthony, M. J. Y., & Thurston, L. (1976). Migration Patterns and Income Change: Implications for the Human Capital Approach to Migration. *Southern Economic Journal*, **42**(4), 693-702. doi:10.2307/1056262
- Bay, A.-H., & Pedersen, A. W. (2006). The Limits of Social Solidarity. *Acta Sociologica*, **49**(4), 419-436. doi:10.1177/0001699306071682
- Finseraas, H. (2008). Immigration and Preferences for Redistribution: An Empirical Analysis of European Survey Data. *Comparative European Politics*, **6**(4), 407-431.
- Gorz, A. (2013). Beyond the Wage-based Society. *Basic Income*, 297.
- Haug, S. (2000). *Klassische und neuere Theorien der Migration*: MZES Mannheim.
- Howard, M. W. (2006). Basic Income and Migration Policy: A Moral Dilemma? *Basic Income Studies*, **1**(1), 1-22. doi: <https://doi.org/10.2202/1932-0183.1001>
- Orrenius, P. M., & Zavodny, M. (2009). Do Immigrants Work in Riskier Jobs? *Demography*, **46**(3), 535-551. doi:10.1353/dem.0.0064
- Van Parijs, P. (1992). Competing Justifications of Basic Income. *Arguing for basic income*, 3-43.
- Wilson, J. S., Mann, C. L., & Otsuki, T. (2005). Assessing the Benefits of Trade Facilitation: A Global Perspective. *The World Economy*, **28**(6), 841-871.

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WHY UBI COULD WORK FOR INDIA

1. First global goal is to end poverty

One of the declared goals of the World Bank and various country leaders is to end extreme poverty by 2030 (The Global Goals for Sustainable Development, 2015). Globally, there are 746 million people living in extreme poverty, with India being the country with the largest number of people suffering from it (218 million people). With less than half the number of people suffering follows Nigeria and the Congo (DRC) with 86 and 55 million people, respectively (Roser & Ortiz-Ospina, 2017).

Judging the example of India, I argue, that a Universal Basic Income (UBI) could help lift people out of extreme poverty and diminish inequality in the country.

The idea of UBI has recently been at the center of attention because of fears that automation could take away many jobs in developed countries. I argue that when discussing the implementation of a UBI, focusing on extreme poverty is largely important because it addresses those most in need. If the UBI can benefit inclusive economic growth, the economy would be able to reduce absolute poverty over time. Changes in poverty levels are not only caused by economic growth; it also depends on the distribution of incomes and how inequality changes during the growth process. Hence, if growth only lifts the incomes at the top, poverty levels will remain unchanged. (OECD, 2012)

2. Why should UBI be implemented in India?

Not only is India the country with most people in extreme poverty, it is also a state in which income inequality has risen over time (Agrawal, 2016). With a growing income disparity in developing countries like India, it seems natural to analyze how a UBI could improve the situation. In the following, I will argue why the implementation of a UBI should be considered in India.

In developing countries like India, welfare systems are often not as advanced and don't benefit those who need it most. Furthermore, convoluted bureaucracy of anti-poverty and social programs tend to reach the wrong and corrupt actors. The Indian government estimates that 36 percent of subsidies from their food programs never make it to any household, and another 36 percent find their way to non-poor households (Ravi, 2017).

Furthermore, the current welfare system of India can be described as a system that assumes the poor cannot make relevant economic decisions on their own. In food programs as an example the government purchases crops from farmers, stores them and then issues them as a ration to poor families. This system, on the one hand, is breeding ground for corrupt actors, who don't give the food to the needy (Worstall, 2017). On the other hand, it puts the recipients in a "paternalistic and clientalistic relationship with the state" (Indian Ministry of Finance, 2017, p.174). UBI would ensure that the poor are not only subjects in a system, but active agents who can decide on their own what to get from the received money.

India already has various welfare programs which try to improve the lives of the poor, but are more of an adamant bureaucratic jungle. Replacing some of those schemes with UBI would save a lot of costs and bureaucratic effort. Another phenomenon that can be witnessed with social programs in India is the misallocation of the government's resources. The misallocation of resources can be witnessed in the fact that the poorest areas of the country often obtain a lower share of government resources in comparison to the richer regions. Richer districts often have better administrative capacities to effectively implement programs and what can be witnessed is a so-called "exclusion error", namely the poor finding themselves unable to access program benefits. (Indian Ministry of Finance, 2017, p.177)

If implemented correctly, a UBI could ensure that the funds attributed to support the people in need reach them (Indian Ministry of Finance, 2017, p.176). Though, targeting the ones who need it most has been a constant issue in India. Lists of poor based on self-reported income and later some more criteria used to be the only method of targeting the needy. This approach was criticized from many sides as data manipulation and corruption became apparent. Therefore, the National Food Security Act (2013) started to only exclude the easily identifiable people with better income in their program. This greater inclusion turned out to be especially beneficial for the poor as it was diminishing an "exclusion error". (Indian Ministry of Finance, 2017, p.180)

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Therefore, the concept of a UBI convinces especially because of the simplicity of the process. As everyone receives it, beneficiaries can just withdraw the money without having to tackle bureaucratic hurdles. Furthermore, it diminishes the social stigma of having to apply for and rely on government support. Lastly, the UBI reaches the individual and not the household, enabling especially women, who are often payed less and have limited educational possibilities, to gain independence and manage finances.

3. How is it feasible?

The basic idea of the UBI is quite simple: Giving out the same amount of money to everyone without judging who needs it, and thereby replacing existing social programs. The Indian Finance Ministry's economic survey suggests, that \$4 per person per month would be sufficient to eventually reduce the rate of Indians living below the poverty threshold from 22 to 7 percent. The cost of such a program would be a mere two percent of GDP, or \$42 billion (Ravi, 2017). Hence, spending only two percent of national GDP on a UBI program could reduce the rate of people living in poverty by 15 percent.

According to the Economic Survey of India's Finance Ministry "Universal Basic Income, is a radical and compelling paradigm shift in thinking about both social justice and productive economy, that provides the necessary material foundation for a life with access to basic goods and a life of dignity." (Indian Ministry of Finance, 2017, p.173). Compared to other social programs, the UBI would also be simpler to implement in that it would be granted based on only one condition: Indian citizenship. Such an approach minimizes all the above-mentioned distortions, such as the misallocation of resources. It empowers the recipients and furthermore reduces administrative costs. As everyone is granted the same amount of money, introducing UBI would relatively benefit poorer people much more than richer ones, without directly transferring money from the richer to the poorer.

4. What hindrances and difficulties will one face?

Attempting to implement it in a country as vast and complex as India brings about various difficulties. The finance ministry sees many advantages but also some difficulties in the implementation of a UBI. Firstly, they emphasize the risk that UBI would become an add-on, rather than a replacement of current anti-poverty and social programs, which would make it fiscally unaffordable. (Indian Ministry of Finance, 2017,

p.172) This also poses the question which welfare programs the UBI should really replace?

A universal payment that also the richest will receive might lead to resistance and misunderstanding in middle and low-income classes. Possible solutions for this scenario would be an opt-in or opt-out option. Opt-in would mean that people who want to be beneficiaries would have to apply for it. Opt-out would enable wealthy people to refrain from the payment. A list publishing the wealthy people who opted-out from the program might increase the social pressure to do so.

Another important aspect is that it is important to make the sum flexible, so that it can be adapted in case of an inflation. Another point that should be taken into consideration is whether children should be recipients of an UBI as well. This on the one hand might ensure their education, on the other hand this might encourage households to have a greater number of children.

In a pilot project in India a form of UBI called direct beneficiary transfer (DBT) has already been tried out (Indian Ministry of Finance, 2017, p.193). Though the project seemed to have reduced some leakages it was never fully successful as it was difficult to determine who should receive such payments and how to reach the right people. Independent evaluations emphasize the need for an improved digital financial infrastructure (Sivalingam & Singh, 2016). The new biometric identification cards, called Aadhaar, might offer interesting opportunities, as the system can handle money transfers, diverting income payments to a bank account linked to the number (The Economist, 2017). Though the financial inclusion via digital services also poses some difficulties. Nearly a third of adults in India do not have a bank account and many also don't have smartphones, especially not among the poorest groups (Worstell, 2017).

5. Conclusion

The UBI recently has been mentioned mainly in the context of the fear of robots stealing our jobs, although the real potential that lies within it is that it can help to alleviate poverty in developing countries like India. With a well-functioning financial system, a UBI may be a fast way of reducing poverty. UBI is also more feasible in a country like India, because even when paying a relatively low amount of income it can yield immense welfare gains for poor people. (Indian Ministry of Finance, 2017, p.173)

Furthermore, it can replace untransparent and bureaucratic welfare systems that often don't reach the right people, by offering direct cash to

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everyone with an Indian citizenship. The concept gives poor people their agency and independence back, as they're able to direct their spending to make their lives better. Suggested digital money transfer concepts won't be easy as around 350 million people in India do not have a smartphone or even a phone yet (Worstell, 2017).

As an experiment UBI could begin in states where welfare is particularly badly targeted or only with women in urban areas until banking services spread to remote areas and in states where current welfare measures are particularly leaky. By doing so the concept might contribute to reaching the global goal of the world's leaders to end extreme poverty by 2030.

References

- Agrawal, N. (October 4, 2016). Inequality in India: what's the real story?. *World Economic Forum*. Retrieved from <https://www.weforum.org/agenda/2016/10/inequality-in-india-oxfam-explainer/>
- Bardhan, P. (May 3, 2017). How India can do UBI: Universal Basic Income is a practical solution to poverty and inequality. <http://blogs.timesofindia.indiatimes.com/toi-edit-page/how-india-can-do-ubi-universal-basic-income-is-a-practical-solution-to-poverty-and-inequality/>
- Government of India - Ministry of Finance (2017). Universal Basic Income: A Conversation With and Within the Mahatma. (Chapter 9). *Economic Survey 2016-17*. Retrieved from <http://indiabudget.nic.in/es2016-17/echap09.pdf>
- OECD (2012). Better Policies Series India - sustaining high and inclusive growth (October). Retrieved from <http://www.oecd.org/india/IndiaBrochure2012.pdf>
- Ravi, S. (April 6, 2017). Why India Is Ready for a Universal Basic Income. How it could cut poverty and bureaucracy. *Foreign affairs*. Retrieved from <https://www.foreignaffairs.com/articles/india/2017-04-06/why-india-ready-universal-basic-income>.
- Roser, M. & Ortiz-Ospina, E. (2017) – 'Global Extreme Poverty'. *Our World in data.de*. Retrieved from <https://ourworldindata.org/extreme-poverty/>
- Sivalingam, I. & Singh, L. (2016). Feeding India's Poor: Plugging Leakages Without Doing Any Harm. Microsave Policy Brief #4. Retrieved from http://www.microsave.net/files/pdf/1464672534_PB_14_Feeding_India_s_Poor_Plugging_Leakages_Without_Doing_Any_Harm.pdf

The Economist (February 2, 2017). India flirts with a UBI. India is taking the idea of a universal basic income seriously, if not literally. Retrieved from <http://www.economist.com/news/finance-economics/21716025-india-taking-idea-universal-basic-income-seriously-if-not>

The Global Goals for Sustainable Development (2015). NO POVERTY: End poverty in all its forms everywhere. Retrieved from <http://www.globalgoals.org/global-goals/no-poverty/>

Worstell, T. (March 14, 2017). Arvind Subramanian Is Correct - Universal Basic Income Will Be Better Than India's Current Welfare. *Forbes.com*. Retrieved from <https://www.forbes.com/sites/timworstell/2017/03/14/arvind-subramanian-is-correct-universal-basic-income-will-be-better-than-indias-current-welfare/#109105cc6561>



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COULD THE UNIVERSAL BASIC INCOME CHANGE THE WOMEN'S ROLE IN SOCIETY?

Gender-related arguments for and against a universal basic income

The universal basic income (UBI) is a concept in which each individual receives an income every month without any conditions. The topic has aroused great public interest since the direct vote about UBI in Switzerland in 2016. As with every revolutionary innovation there are many different aspects to be considered. One is the different impact that UBI would have on men and on women and as a consequence the possible changes in gender-relations. Already, in 1977 the Claimants Union Movement in Great Britain stated: "We demand a Guaranteed Minimum Income for every individual person ... it is the only way that women can obtain equal treatment with men [as] each woman would be treated as a separate individual, and never as another person's dependant." (Toru, 2014, p.11) Unfortunately, most discussions, back then, as well as today, are "gender-blind" although this aspect is a major factor, at least for the female population, when considering the implementation of a UBI. (Robeyns, 2010, p.137) Despite progress, women continue to bear a heavier burden when it comes to work and family. (Statistisches Bundesamt, 2014) The following essay examines gender-related arguments for and against the UBI and presents some conclusions.

Supporters state that the UBI would have a beneficial effect on the women's role in society. First of all, the UBI is paid to every individual and does not depend on relationship structures. This means there are less incentives for household formation as the

income of a partner would not be taken into consideration in the entitlement to the UBI. (Haywood, 2014) Therefore, this could strengthen the women's position, when they are responsible for child care, as at this point they often become the economically dependent partner in a relationship. (Federal Ministry of Labour and Social Affairs, 2017; Winker, 2016) In addition to a stronger economic position, this would also encourage a stronger social recognition for the importance of family and child care responsibilities. (SWR2 Wissen, 2017)

It is a fact, that women are overrepresented in low paid employment and a UBI would give them more bargaining power and independence. It would also allow them to refuse very low paid or intrinsically unpleasant jobs and to negotiate higher wages which would cause a change in the labour supply and conditions. (Robeyns, 2010)

One type of very low paid or unpaid work is the so-called care work. According to literature, care work comprises not only the entire family work but also the educational and supervisory work in institutions such as kindergartens, schools, retirement homes and hospitals. (Winker, 2016) It is argued, that care work is devalued as a typical women's work (Winker, 2016) and additionally "it is underrecognised, undervalued and given little material support". (Baker, 2008, p.2) Women therefore demand not only an appreciation and support of care work but also equal pay and distribution between men and women. (Baker, 2008)

How can the universal basic income help? UBI could cause a change of paradigm in societal values as "feminine values would be given a greater prominence in public disclosure and societal interactions" (Robeyns, 2010, p.138) which may lead to a higher value being placed on unpaid and care work. Some even surmise that the UBI would encourage more men to do care or unpaid work, enabling more women to follow their career. (Huber, 2016)

Critics of the UBI do not believe in strengthening of the women's role, as they are afraid that the situation for women could become worse. Concerning the question of care work, some people ask why, after the introduction of a parental leave, which was intended to support women and encourage men to participate in care work, the offer is mostly taken up by mothers. (Robeyns, 2010) Might this be the same with a UBI? Furthermore, the political scientist and feminist Antje Schrupp worries about a re-traditionalization of the

women's role. She thinks that by reasoning that women get a UBI, it is expected, they should stay at home and care for others. (Schrupp, 2016b) Considering the present social structures, the probability is high, that a UBI could lead to a self-realization for men, while, as before, women counter the care work. (Schrupp, 2016a) Moreover, the higher valuation of care and unpaid work through a UBI is in doubt. As the UBI is paid to everyone, regardless of contributing to society or not, "it is hard to see how it signals a positive societal (financial) appreciation for care work". (Robeyns, 2010, p.142) Additionally, it is embedded in the market-oriented society in Germany, where mostly well-paid and high-status work is valued and unpaid and voluntary work is not valued enough by society. (SWR2 Wissen, 2017)

Furthermore, it is argued that the UBI would foster cuts in social services. By paying state funding to individuals, there would be less resources for social institutions such as day care centres, schools, hospitals or retirement homes. It would be preferable for women working in the social sector if they were paid a fair and adequate wage without the UBI. (Winker, 2016)

Moreover, some people question the argument of a change in labour supply as paid work is traditionally important for the identity of western men. (Robeyns, 2010) Thus, it is possible that men would not stop working or move into the caring professions whereas women, who are more intrinsically motivated to care for others, would move into part-time jobs or stop working. (Spannagel, 2015)

The universal basic income is a radical idea to create more welfare. However, it has not yet been tested over a long period and therefore one can only hypothesize about long-term societal changes. This also makes it difficult to come up with reliable statements about the positive and negative changes it would bring about for women. In my opinion, these changes depend on some content-related design aspects of the UBI. One aspect is, whether children will be included in the UBI and if so, how high their income will be. Could this income support families, who want to send their child to an all-day school, so that both parents could work? Additionally, the question remains open whether existing financial provisions for needy people, such as children or the elderly, would be maintained. Furthermore, even in the case of UBI, there will remain a need for accompanying measures, which would provide

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flexibility for parents who want to combine working and taking care of their family. If these aspects are not given, the UBI probably could cause higher welfare, but won't lead to more gender-justice.



References

- Baker, J. (2008). All Things Considered, Should Feminists Embrace Basic Income? *An International Journal of Basic Income Research*, 3(3), 1–8.
- Federal Ministry of Labour and Social Affairs. (2017). *White Paper: Work 4.0*.
- Haywood, L. (2014). *unconditional basic income: an economic perspective*. Berlin.
- Huber, T. (2016, May 7). Grundeinkommen – Fluch oder Segen für die Frauen? *Tagesanzeiger*. Retrieved from <http://www.tagesanzeiger.ch/schweiz/standard/Grundeinkommen--Fluch-oder-Segen-fuer-die-Frauen/story/10780822>
- Robeyns, I. (2010). Feminism, Basic Income and the Welfare State. In C. Bauhardt & G. Caglar (Eds.), *Gender and Economics. Feministische Kritik der politischen Ökonomie* (1st ed., pp. 132–149). Wiesbaden: VS Verlag.
- Schrupp, A. (2016a, June 6). Interview by B. Wossagk.
- Schrupp, A. (2016b, October 14). Interview by 3sat Mediathek.
- Spannagel, D. (2015). *Das bedingungslose Grundeinkommen: Chancen und Risiken einer Entkoppelung von Einkommen und Arbeit*.
- Statistisches Bundesamt. (2014). *Auf dem Weg zur Gleichstellung?: Bildung, Arbeit und Soziales – Unterschiede zwischen Frauen und Männern*.
- SWR2 Wissen (Author) (2017, June 1). *Das bedingungslose Grundeinkommen* [Television broadcast]. SWR2.
- Toru, Y. (2014). A Feminist Way to Unconditional Basic Income: Claimants Unions and Women's Liberation Movements in 1970s Britain. *Basic Income Studies*, 9, 1–24.
- Winker, G. (2016). Leben ohne existenzielle Not: Mit einer feministischen Care-Perspektive für das bedingungslose Grundeinkommen. In R. Blaschke, I. Praetorius, & A. Schrupp (Eds.), *Das bedingungslose Grundeinkommen. Feministische und postpatriarchale Perspektiven* (pp. 12–31). Sulzbach/Taunus: Ulrike Helmer Verlag.

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